

Raw Data

P. micelli experiment  
Sunrise - sunset (35°N)

June 21 — 4:46 to 19:16 (14 1/2 hours)  
Oct. 15 — 6:06 to 17:25 (11 1/4 hours)  
Oct. 31 — 6:20 to 17:07 (10 3/4 hours)  
August 15 — 5:20 to 18:48 (13 1/2 hours)

Sept. activity

Actual: 0730 to 1130; 1600 to 1800 (7 hours)  
Potential: 0730 to 1800 (10 1/2 hours)

Respirometer readings

Changes on blank

1) When it goes to a smaller #, subtract from total.

ex: 61 to 59 - subtract 2

2) When it goes to a larger #, add to total

ex: 61 to 64 - add 3

PHRYNO SOMA M'CALLI LIGHT EXPERIMENT

9/11/64

ANIMAL No.	WEIGHT (gms) 6/110	WEIGHT (gms) 9/11	DIFFERENCE (gms.)	% WEIGHT LOSS
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6 HOURS LIGHT

1	23.8	15.3	- 8.5	35.8
4	17.4	11.8	- 5.6	32.2
8	19.9	12.9	- 7.0	36.8
11	14.6	13.5	- 1.1	7.5
12	15.8	8.9	- 6.9	43.6
13	15.5	14.3	- 1.2	7.7
14	18.2	13.1	- 5.1	28.0

15 HOURS LIGHT

2	11.4	9.6	- 1.8	15.8
3	19.9	22.1	+ 2.2	11.0 (GAIN)
6	18.2	17.0	- 1.2	6.6
7	16.8	21.5	+ 4.7	28.0 (GAIN)
9	12.2	9.9	- 2.3	18.1
15	16.3	9.1	- 7.2	44.2
16	18.2	8.8	- 9.4	51.6

AVERAGE WEIGHT LOSS BY 15 HR. 14.0%  
 " " " " " " 6 HR. 21.4%

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## PHRYNOSOMA M'CALLI

Lizard Source - Field (caught 8/22/63)

Temperature - 15°C

Jar	Lizard No.	Sex	Weight (gms.)	Date	Time (min.)	Blank		Manometer		Total O <sub>2</sub> 0 <sub>2</sub> /hr. (cc/gm/hr.)
						start	stop	start	stop	
1	120	♂	12.0	8/23/63	15	.55	.58	.66	.61	.08 0.32 .02
					" 15	.54	.15	.77	.39	— — —
					" 15	.27	.18	.83	.55	.19 0.76 .06
					" 20	.20	.23	.68	.65	.06 0.18 .01
2	122	♂	15.6	"	15	.55	.58	.65	.28	.40 1.60 .10
					" 15	.54	.15	.73	.12	.22 0.88 .05
					" 15	.27	.18	.82	.08	.65 2.60 .16
					" 20	.20	.23	.67	.02	.68 2.04 .13
3	124	♀	15.3	"	15	.55	.58	—	—	— — —
					" 15	.54	.15	.92	.55	— — —
					" 15	.27	.18	.86	.58	.19 0.76 .04
					" 20	.20	.23	.62	.49	.16 0.48 .03
4	121	♂	10.3	"	15	.55	.58	.61	.74	— — —
					" 15	.54	.15	.79	.43	— — —
					" 15	.27	.18	.92	.71	.12 0.48 .04
					" 20	.20	.23	.76	.70	.09 0.27 .02
5	125	♀	12.6	"	15	.55	.58	.77	.80	— — —
					" 15	.54	.15	.76	.34	.03 0.12 .01
					" 15	.27	.18	.82	.53	.20 0.80 .06
					" 20	.20	.23	.61	.45	.19 0.57 .04
6	119	♀	14.4	"	15	.55	.58	.80	.75	.08 0.32 .02
					" 15	.54	.15	.81	.42	— — —
					" 15	.27	.18	.86	.64	.13 0.52 .03
					" 20	.20	.23	.67	.60	.10 0.30 .02
7	118	♀	18.3	"	15	.55	.58	.78	.67	.14 0.56 .03
					" 15	.54	.15	.84	.47	— — —
					" 15	.27	.18	.93	.83	.01 0.04 —
					" 20	.20	.23	.81	.47	.37 1.11 .06
8	123	♀	20.0	"	15	.55	.58	.77	.43	.37 1.48 .07
					" 15	.54	.15	.75	.03	.33 1.32 .06
					" 15	.27	.18	.84	.04	.71 2.84 .14

(over) Barometer: 734 mm.

Jar	Lizard	Sex	Weight	Date	Time	Blank	Manometer	Total
8	123	♀	20.0	8/23/63	20	.20	.23	O <sub>2</sub> /hr.
						.79	.00	(cc/gm/hr)
							.82	.12

## PHRYNOSOMA M'CALLI

Lizard Source - Outdoor cage

Temperature - 15°C

Jar	Lizard No.	sex	Weight (gms.)	Date	Time (min.)	Blank		start	stop	corrected	Total $O^2$ /hr	$O^2$ / (cc/gm/hr)
						start	stop					
1	97	♀	20.0	8/16/63	15	.49	.83	.89	.83	.40	1.60	.08
					..	18	.49					
					..	15	.67					
3	200+109	♀	15.0	..	15	.67	.57	.81	.60	.11	0.44	.02
5	287	♀	14.8	..	15	.67	.57	.81	.20	.51	2.04	.13
6	103	♂	16.2	..	15	.67	.57	.95	.48	.37	1.48	.09
7	51	♀	17.6	..	15	.67	.57	.67	.58	—	—	—

Field animals (caught 8/18/63)

1	Juv.	♀	3.9	8/19/63	5	.51	.43	.77	.66	.03	0.36	.09
	(OMIT)		..	..	5	.43	.60	.66	.76	.07	0.84	.21
			..	..	5	.60	.81	.76	.91	.06	0.72	.18
			..	..	5	.81	.61	.91	.75	—	—	—
			..	..	3	.61	.49	.75	.62	.01	0.20	.05
2	Ad.	♂	12.7	..	—	—	—	—	—	—	3.48	.27?
			..	..	5	.43	.60	.56	.47	.26	3.12	.24?
			..	..	5	.60	.81	.47	.49	.19	2.28	.17
			..	..	5	.81	.61	.49	.23	.06	0.72	.05
			..	..	3	.61	.49	.23	.08	.05	1.00	.07
3	Ad.	♀	11.5	..	—	—	—	—	—	—	2.40	.20?
			..	..	5	.43	.60	.32	.20	.11	1.32	.11
			..	..	5	.60	.81	.38	.49	.10	1.20	.10
			..	..	5	.81	.61	.49	.17	.12	1.44	.12
			..	..	3	.61	.49	.17	.01	.04	0.80	.06

These animals were run continuously for 23 minutes without resetting.

Summary

1	Juv.	♀	3.9	8/19/63	23	.51	.49	.77	.62	.13	0.34	.09
2	Ad.	♂	12.7	..	23	.51	.49	.93	.08	.83	2.16	.17
3	Ad.	♀	11.5	..	23	.51	.49	.60	.01	.57	1.48	.13



## PHRYNOSOMA M'CALLI

Lizard Source - Outdoor cage

Temperature - 15°C

Jar	Lizard	No.	Sex	Weight (gms.)	Date	Time (min.)	Blank		Manometer		Total O <sub>2</sub> O <sub>2</sub> /hr. O <sub>2</sub> /gm/hr.
							start	stop	start	stop	corrected
1	110	♀	18.7	8/15/63	15	.54	.53	.74	.47	.26	1.04 .06
						8/16/63	8	.67	.59	.85	.00 .75 5.62 .30
						8/16/63	6	.57	.88	.75	.72 .34 3.40 .18
2	200+109	♀	15.0	8/15/63	15	.54	.53	.83	.53	.29	1.16 .08
						8/16/63	15	.49	.83	.81	.77 .38 1.52 .10
						8/16/63	18	.49	.53	.81	.52 .33 1.10 .07
3	103	♂	16.2	8/15/63	15	.54	.53	.82	.71	.10	0.40 .02
						8/16/63	15	.49	.83	.81	.67 .48 1.92 .11
						8/16/63	18	.49	.53	.81	.28 .57 1.90 .11
4	287	♀	14.8	8/15/63	15	.54	.53	.79 (Active?) <sup>00</sup>		.78	3.12 .21
						8/16/63	15	.49	.83	.78	.42 .70 2.80 .18
						8/16/63	18	.49	.53	.78	.07 .75 2.50 .16
5	51	♀	17.6	8/15/63	15	.54	.53	.84	.49	.34	1.36 .07
						8/16/63	15	.49	.83	.76	.61 .49 1.96 .11
						8/16/63	18	.49	.53	.76	.59 .21 0.70 .03
1	97	♀	20.0	8/16/63	12	.63	.54	.94 (Active) <sup>00</sup>		.85	4.25 .21
						..	14	.44	.16	.87	.00 .59 2.52 .12
						..	15	.56	.25	.84	.33 .20 0.80 .04
2	299	♂	14.3	..	15	.63	.54	.84	.47	.28	1.12 .07
						..	15	.44	.16	.82	.42 .12 0.48 .03
						..	15	.56	.25	.93	.61 .01 0.04 .00
3	101	♂	17.4	..	15	.63	.54	.87	.55	.23	0.92 .05
						..	15	.44	.16	.68	.23 .17 0.68 .03
						..	15	.56	.25	.90	.54 .05 0.20 .01
4	117	♂	16.4	..	18	.49	.53	.88	.87	.05	0.17 .01
						..	15	.67	.57	.91	.74 .07 0.28 .01
						..	15	.56	.25	.78	.28 .19 0.76 .04
5	105	♂	12.1	..	15	.63	.54	.96	.52	.35	1.40 .11
						..	15	.44	.16	.79	.48 .03 0.12 .01
						..	15	.56	.25	.92	.54 .07 0.28 .02

Barometer: 8/15/63 - 732 mm.

8/16/63 - 734 mm.



## PHRYNOSOMA M'CALLI

Lizard Source—Cold room

Temperature—15°C

Jar	Lizard No.	Sex	Weight (gms)	Date	Time (min)	Blank		Manometer			Total O <sup>2</sup> /hr. (cc/gm/hr.)	O <sup>2</sup> (cc/gm/hr.)
						start	stop	start	stop	corrected		
1	103	♂	14.1	9/2/63	15	.60	.41	.90	.23	.48	1.92	.13
					" 20	.46	.60	.79	.64	.29	0.87	.06
					" 20	.68	.89	.63	.56	.28	0.84	.05
					" 18	.83	.95	.56	.37	.31	1.03	.07
2	105	♂	10.3	"	15	.60	.41	.88	.33	.36	1.44	.13
					" 20	.46	.60	.65	.30	.49	1.47	.14
					" 20	.68	.89	.66	.32	.55	1.65	.16
					" 18	.83	.95	.82	.34	.60	1.98	.19
3	110	♀	16.7	"	15	.60	.41	.81	.25	.37	1.48	.08
					" 20	.46	.60	.73	.48	.39	1.17	.07
					" 20	.68	.89	.53	.42	.32	0.96	.05
					" 18	.83	.95	.80	.68	.24	0.80	.04
4	97	♀	20.0	"	15	.60	.41	.80	.02	.59	2.36	.11
					" 20	.46	.60	.80	.10	.84	2.52	.12
					" 20	.68	.89	.77	.27	.71	2.13	.10
					" 18	.83	.95	.74	.22	.64	2.13	.10
5	<del>300009</del>	♀	12.6	"	15	.60	.41	.92	.59	.14	0.56	.04
299	299	♂		"	20	.46	.60	.86	.87	.13	0.39	.03
					" 20	.68	.89	.93	.96	.18	0.54	.04
					" 18	.83	.95	.77	.86	.03	0.10	—

Barometer: 733 mm.



Lizard Source - Cold room

Temperature - 15°C

<u>Jar</u>	<u>Lizard No.</u>	<u>sex</u>	<u>Weight (gms.)</u>	<u>Date</u>	<u>Time (min.)</u>	<u>Blank</u>		<u>Manometer</u>			<u>Total O<sub>2</sub>/hr</u>	<u>O<sub>2</sub> (cc/gm/hr)</u>
						<u>start</u>	<u>stop</u>	<u>start</u>	<u>stop</u>	<u>corrected</u>		
1	117	♂	14.1	9/3/63	20	.53	.66	.54	.12	.55	1.65	.11
					"	.61	.66	.78	.27	.56	1.68	.11
					"	.64	.72	.73	.64	.17	0.51	.03
					"	.73	.85	.68	.58	.22	0.66	.04
2	287	♀	13.5		20	.53	.66	.72	.53	.32	0.96	.07
					"	.61	.66	.50	.39	.16	0.48	.03
					"	.64	.72	.65	.54	.19	0.57	.04
					"	.73	.85	.54	.48	.18	0.54	.04
3	200+109	♀	13.2		20	.53	.66	.45	.10	.48	1.44	.10
					"	.61	.66	.76	.17	.64	1.92	.14
					"	.64	.72	.65	.01	.72	2.16	.16
					"	.73	.83	.72	.00	.82	2.71	.20
4	86	♀	16.2		20	.53	.66	.78	.71	.20	0.60	.03
					"	.61	.66	.71	.69	.07	0.21	.01
					"	.64	.72	.69	.68	.09	0.27	.01
					"	.73	.85	.68	.66	.14	0.42	.02
5	101	♂	15.3		20	.53	.66	.41	.23	.31	0.93	.06
					"	.61	.66	.69	.52	.22	0.66	.04
					"	.64	.72	.69	.58	.19	0.57	.03
					"	.73	.85	.59	.39	.32	0.96	.06

Barometer: 733 mm.



## PHRYNOCEPHALUS MICRAU

Lizard source - 15°C cage (dark)

15°C

Jar	Lizard No.	Sex	Weight (gms)	Date	Time (min)	Blank			Manometer			Total O <sub>2</sub> / hr	O <sub>2</sub> (cc/gm/hr)
						start	stop	start	stop	corrected			
2	85	♀	20.1	12/11/63	20	.59	.42	.80	.62	.01	0.03	.001	
					20	.59	.52	.77	.68	.08	0.06	.003	
					20	.66	.64	.74	.61	.11	0.33	.016	
6	45	♂	9.4	12/13/63	20	.50	.31	.80	.36	.25	0.75	.08	
					20	.56	.42	.83	.63	.06	0.18	.019	
					20	.43	.32	.84	.71	.02	0.06	.001	
4	86	♀	19.8	12/16/63	20	.66	.55	.97	.37	.49	1.47	.07	
					20	.53	.53	.80	.22	.58	1.74	.09	
					20	.53	.48	.82	.46	.31	0.93	.05	
3	103+20+30	♂	17.3	12/17/63	20	.57	.47	.83	.69	.04	0.12	.01	
					20	.47	.42	.91	.76	.10	0.30	.02	
					20	.48	.40	.85	.70	.07	0.21	.01	
8	200+109	♀	14.6	12/18/63	20	.51	.45	.90	.66	.18	0.54	.04	
					20	.55	.59	.79	.55	.28	0.84	.06	
					15	.60	.59	.43	.01	.41	1.64	.11	
					20	.55	.52	.81	.60	.18	0.54	.04	



## Lizard source - 15°C cage (light)

15°C

## PHRYNOSOMA MOLLE

<u>Jar</u>	<u>Lizard No.</u>	<u>Sex</u>	<u>Weight (gms)</u>	<u>Date</u>	<u>Time (min)</u>	<u>Blank</u>	<u>Manometer</u>	<u>Total O<sub>2</sub>/hr</u>	<u>O<sub>2</sub> (cc/gm/hr)</u>
						<u>start</u>	<u>stop</u>	<u>corrected</u>	
1	81	♂	16.3	12/11/63	20	.59	.42	.79	.50
					20	.59	.52	.80	.66
					(omit)	.66	.64	.76	.74
4	299	♂	14.0	12/13/63	20	.50	.31	.84	.05
					20	.56	.42	.85	.04
					20	.43	.32	.86	.37
6	67	♀	17.0	12/16/63	12	.66	.58	.78	.21
					15	.53	.54	.86	.19
					7	.58	.55	.83	.48
					20	.53	.48	.81	.15
6	54	♂	13.5	12/17/63	20	.57	.47	.81	.22
					20	.47	.42	.83	.22
					20	.48	.40	.89	.25
5	71	♂	20.3	12/18/63	15	.51	.41	.88	.04
					15	.55	.60	.80	.20
					15	.60	.59	.83	.04
					20	.55	.52	.76	.58
3	41	♀	17.1	12/20/63	20	.57	.46	.80	.65
					20	.45	.38	.92	.82
					20	.38	.58	.82	.95



## Lizard Source - 25°C cage

Jan	Lizard No.	Sex	Weight (gms)	Date	Time (min)	Blank		Manometer		Total O <sub>2</sub> O <sub>2</sub> /hr (cc/gm/hr)	O <sub>2</sub> O <sub>2</sub> /hr (cc/gm/hr)
						start	stop	start	stop		
5	297	♂	17.8	12/11/63	7	.59	.45	.74	.23	.37	3.18 .18
					15	.59	.37	.79	.06	.51	2.04 .11
					10	.42	.33	.80	.01	.70	4.20 .24
					20	.66	.64	.86	.79	.05	0.15 .01
5	97	♀	16.6	12/12/63	20	.50	.31	.82	.28	.35	1.05 .06
					20	.56	.42	.83	.00	.69	2.07 .12
					20	.43	.32	.88	.26	.51	1.53 .09
					16	.52	.30	.93	.17	.54	2.02 .12
1	39	♀	17.6	12/16/63	20	.66	.55	.96	.60	.25	0.75 .04
					20	.53	.53	.82	.62	.20	0.60 .03
					20	.53	.48	.94	.82	.07	0.21 .01
2	102	♀	20.0	12/17/63	20	.57	.47	.95	.82	.03	0.09 .004
					20	.47	.42	.79	.55	.19	0.57 .03
					20	.48	.40	.78	.63	.07	0.21 .01
3	37	♀	18.5	12/18/63	20	.51	.45	.79	.65	.08	0.24 .01
					20	.55	.59	.85	.83	—	—
1	108	♂	10.4	12/18/63	20	.60	.56	.83	.73	.06	0.18 .01
					20	.55	.52	.72	.64	.05	0.15 .01
					20	.51	.45	.79	.71	.02	0.06 .01
					20	.60	.56	.91	.80	.05	0.15 .01
					20	.55	.52	.78	.72	.03	0.09 .01
					20	.55	.59	.86	.90	—	—
7	87	♂	13.3	12/18/63	20	.55	.59	.93	.90	.07	0.21 .02
					20	.60	.56	.91	.83	.04	0.12 .01
					20	.55	.52	.83	.73	.07	0.21 .02
6	64	♀	19.4	12/18/63	20	.51	.45	.91	.79	.06	0.18 .01
					20	.55	.59	.89	.87	.06	0.18 .01
					20	.60	.56	.87	.78	.05	0.15 .01
					20	.55	.52	.75	.67	.05	0.15 .01
8	29	♀	12.5	12/19/63	20	.51	.36	.90	.63	.12	0.36 .03
					20	.62	.61	.97	.91	.05	0.15 .01
					20	.65	.72	.93	.99	.01	0.03 .002



## Lizard source - 25°C cage

15°C

Jar	Lizard No.	Sex	Weight (gms)	Date	Time (min)	Blank		Manometer			Total O <sub>2</sub> /hr	O <sub>2</sub> (cc/gm/hr)
						start	stop	start	stop	corrected		
6	23	♀	17.5	12/19/63	20	.51	.36	.88	.69	.04	0.12	.01
					20	.62	.61	.47	.44	.05	0.15	.01
					20	.65	.72	.75	.71	.11	0.33	.02
1	292	♂	14.3	12/20/63	20	.57	.46	.87	.53	.23	0.69	.05
					20	.45	.38	.86	.67	.12	0.36	.02
					20	.38	.58	.87	.92	.15	0.45	.03



## PHRYNOCEPHALUS M'CALLI

15 °C

Lizard Source - 35°C cage

<u>Jar</u>	<u>Lizard No.</u>	<u>Sex</u>	<u>Weight (gms)</u>	<u>Date</u>	<u>Time (min.)</u>	<u>Blank start</u>	<u>Blank stop</u>	<u>Manometer start</u>	<u>Manometer stop</u>	<u>corrected</u>	<u>Total O<sub>2</sub>/hr (cc/gm/hr)</u>	<u>O<sub>2</sub></u>
6	40	♀	13.5	12/11/63	20	.59	.42	.75	.39	.19	0.57	.04
					20	.59	.52	.82	.73	.02	0.06	.004
					20	.66	.64	.80	.51	.27	0.81	.06
3	95	♀	12.8	12/13/63	20	.52	.23	.91	.48	.14	0.42	.03
					20	.50	.31	.89	.75	—	—	—
					20	.56	.42	.84	.72	—	—	—
					20	.43	.32	.90	.79	—	—	—
1	17	♂	7.4	12/14/63	20	.61	.47	.96	.79	.03	0.09	.01
					20	.60	.53	.92	.68	.17	0.51	.07
					20	.53	.43	.66	.47	.09	0.27	.04
3	80	♀	10.0	12/14/63	20	.61	.47	.95	.41	.40	1.20	.12
					20	.60	.53	.93	.79	.07	0.21	.02
					20	.53	.43	.79	.55	.14	0.42	.04
6	117	♂	11.6	12/14/63	20	.61	.47	.93	.51	.28	0.84	.07
					20	.60	.53	.83	.65	.11	0.33	.03
					20	.53	.43	.65	.47	.08	0.24	.02
2	89	♂	10.2	12/14/63	20	.61	.47	.93	.11	.68	2.04	.20
					20	.60	.53	.84	.20	.57	1.71	.17
					20	.53	.43	.90	.22	.58	1.74	.17
2	15	♂	8.2	12/16/63	20	.66	.55	.88	.37	.40	1.20	.15
					20	.53	.53	.85	.56	.29	0.87	.12
					20	.53	.58	.93	.79	.09	0.27	.03
5	201+3	♂	9.3	12/16/63	20	.66	.55	.99	.35	.53	1.59	.17
					20	.53	.53	.83	.42	.41	1.23	.13
					20	.53	.48	.82	.37	.40	1.20	.13
1	114	♀	6.4	12/17/63	20	.57	.47	.96	.85	.01	0.03	.004
					20	.47	.42	.85	.84	—	—	—
					20	.48	.40	.76	.61	.07	0.21	.03
5	56	♂	8.2	12/17/63	20	.57	.47	.95	.79	.06	0.18	.02
					20	.47	.42	.79	.78	—	—	—
					20	.48	.40	.86	.71	.07	0.21	.02



## Lizard Source - Outdoor cage

15°C

<u>Lizard</u>	<u>Jar No.</u>	<u>Sex</u>	<u>Weight (gms)</u>	<u>Date</u>	<u>Time (min.)</u>	<u>Blank</u>	<u>Manometer</u>	<u>Total</u>	<u>O<sub>2</sub></u>
						<u>start</u>	<u>stop</u>	<u>corrected</u>	<u>(cc/gm/hr.)</u>
4	121	♂	13.1	12/11/63	20	.59	.42	.82	.64
					20	.59	.52	.77	.68
					20	.66	.64	.76	.58
3	122	♂	16.3	12/11/63	7	.59	.45	.61	.06
					20	.59	.52	.76	.29
					18	.66	.47	.86	.01
					10	.42	.33	.62	.05
2	116	♀	22.3	12/13/63	20	.50	.31	.89	.37
					20	.56	.42	.90	.15
					20	.43	.32	.92	.48
1	208 + 100	♀	21.0	12/13/63	20	.52	.23	.93	.37
					18	.50	.34	.98	.08
					18	.56	.43	.84	.03
					20	.43	.32	.92	.38
					10	.60	.53	.91	.80
4	69	♂	18.7	12/14/63	20	.67	.57	.87	.21
					10	.67	.57	.56	.21
5	106	♀	17.0	12/14/63	20	.61	.47	.95	.20
					6	.55	.53	.88	.70
					20	.53	.43	.68	.20
3	93	♂	13.7	12/16/63	20	.66	.55	.90	.73
					20	.53	.53	.69	.26
					20	.53	.48	.92	.77
4	49	♀	15.3	12/17/63	20	.57	.47	.88	.53
					20	.47	.42	.83	.51
					20	.48	.40	.65	.07
2	208	♀	20.0	12/18/63	20	.51	.45	.97	.23
					20	.55	.59	.93	.24
					15	.60	.59	.88	.23
					20	.55	.52	.90	.12



## Lizard source - Outdoor cage

15°C

Jar	Lizard No.	Sex	Weight (gms)	Date	Time (min)	Blank		Manometer			Total O <sub>2</sub> /hr.	O <sub>2</sub> (cc/gm/hr.)
						start	stop	start	stop	corrected		
4	88	♀	24.3	12/18/63	20	.55	.59	.89	.31	.62	1.86	.08
					20	.60	.56	.88	.28	.56	1.68	.07
					20	.55	.52	.87	.41	.43	1.29	.05
1	213	♂	13.5	12/19/63	20	.51	.36	.83	.45	.23	0.69	.05
					20	.62	.61	.91	.45	.45	1.35	.10
					20	.65	.72	.87	.47	.47	1.41	.10
4	63	♂	15.3	12/19/63	9	.65	.67	.65	.43	.24	1.60	.10
					10	.67	.72	.76	.22	.59	3.54	.23
3	123	♀	21.0	12/19/63	20	.51	.36	.85	.53	.17	0.51	.02
					20	.62	.61	.73	.44	.28	0.84	.04
					20	.65	.72	.82	.59	.30	0.90	.04
2	16	♂	16.5	12/20/63	20	.57	.46	.91	.41	.39	1.17	.07
					20	.45	.38	.88	.43	.38	1.14	.07
					20	.38	.58	.94	.97	.17	0.51	.03
5	72	♀	16.2	12/19/63	20	.51	.36	.90	.36	.39	1.17	.07
					20	.62	.61	.76	.44	.31	0.93	.06
					20	.65	.72	.81	.52	.34	1.02	.06
2	92	♀	12.7	12/19/63	20	.51	.36	.91	.02	.74	2.22	.17
					20	.62	.61	.86	.23	.62	1.86	.15
					20	.65	.72	.82	.43	.46	1.38	.11
4	203+1	♂	13.8	12/20/63	20	.57	.46	.82	.05	.66	1.98	.14
					20	.45	.38	.89	.23	.59	1.77	.13
					20	.38	.58	.92	.48	.64	1.92	.14



## PHRYNOSOMA M'CALLI

Lizard Source - Field (caught 8/22/63)

Temperature - 25 °C

Jar	Lizard No.	Sex	Weight (gms.)	Date	Time (min.)	Blank		Manometer		Total O <sub>2</sub> O <sub>2</sub> /hr (cc/gm/hr)		
						start	stop	start	stop corrected			
1	120	♂	12.0	8/23/63	20	.48	.74	.91	.72	.45	1.35 .11	
					" 30	.46	.68	.90	.79	.33	0.66 .05	
					" 16	.65	.73	.89	.66	.31	1.16 .09	
					" 15	.59	.63	.66	.61	.09	0.36 .03	
2	122	♂	15.6		20	.48	.74	.85	.14	.97	2.91 .18	
					" 30	.46	.68	.95	.30	.87	1.74 .11	
					" 11	.65	.72	.78	.00	.85	4.63 .29	
					" 10	.59	.61	.77	.04	.75	4.50 .28	
3	124	♀	15.3		10	.68	.76	.86	.80	.14	0.84 .05	
					" 30	.46	.68	.94	.66	.50	1.00 .06	
					" 16	.65	.73	.82	.53	.37	1.39 .09	
					" 15	.59	.63	.58	.45	.17	0.68 .04	
4	121	♂	10.3		30	.46	.68	.90	.28	.84	1.68 .16	
					" 16	.65	.73	.67	.72	.03	0.11 .01	
					" 15	.59	.63	.60	.44	.20	0.80 .07	
					—	—	—	—	—	—	—	
5	125	♀	12.6		8	.74	.80	.58	.03	.61	4.58 .36 active	
					" 30	.46	.68	.85	.33	.74	1.48 .11	
					" 16	.65	.73	.88	.64	.32	1.20 .09	
					" 15	.59	.63	.67	.39	.32	1.28 .10	
6	119	♀	14.4		10	.68	.76	.91	.90	.09	0.54 .03	
					" 30	.46	.68	.89	.92	.19	0.38 .02	
					" 16	.65	.73	.94	.80	.22	0.82 .05	
					" 15	.59	.63	.85	.52	.37	1.48 .10	
7	118	♀	18.3		20	.48	.74	.85	.53	.58	1.74 .09	
					" 30	.46	.68	.80	.20	.82	1.64 .08	
					" 16	.65	.73	.80	.48	.40	1.50 .08	
					" 15	.59	.63	.82	.31	.55	2.20 .12	
8	123	♀	20.0		20	.48	.74	.88	.47	.67	2.01 .10	
					" 30	.46	.68	.83	.00	1.05	2.10 .10	
(over) Barometer: 733 mm.						" 16	.65	.73	.70	.04	.74	2.78 .13

Jar	Lizard	Sex	Weight	Date	Time	start	stop	start	stop	corrected	Total O <sup>2</sup> /hr	O <sup>2</sup> (cc/gm/hr)
8	123	♀	20.0	8/23/63	15	.59	.63	.76	.16	.64	2.56	.12

1

1

1

Lizard Source - Field (Caught 8/18/63)

Temperature - 25°C

<u>Jar</u>	<u>Lizard</u>	<u>Weight</u>	<u>Date</u>	<u>Time</u> (min.)	<u>Blank</u>		<u>start</u>	<u>Manometer</u>		<u>Total</u>	<u>O<sup>2</sup>/hr.</u>	<u>cc/gm/hr.</u>
	<u>No.</u>	<u>sex</u>			<u>(gms.)</u>	<u>start</u>	<u>stop</u>	<u>stop</u>	<u>corrected</u>	<u>O<sup>2</sup>/hr.</u>		
1	Iuv.	3.9	8/19/63	5	.50	.59	.85	.85	.09	1.08	.27	
				"	5	.59	.68	.85	.87	.06	0.72	.18
				"	10	.63	.85	.77	.79	.20	1.20	.30
				"	10	.61	.62	.81	.83	—	—	—
2	Ad.	♂	12.7	"	5	.50	.59	.81	.77	.13	1.56	.12
				"	5	.59	.68	.77	.76	.09	1.08	.08
				"	10	.63	.85	.80	.78	.24	1.44	.11
				—	10	.61	.62	.78	.77	.02	0.12	.01
3	Ad.	♀	11.5	"	5	.50	.59	.81	.63	.27	3.24	.28
				"	5	.59	.68	.63	.48	.23	2.76	.24
				"	10	.63	.85	.88	.80	.30	1.80	.15
				"	10	.61	.62	.84	.62	.23	1.38	.12



## PHRYNOSOMA M'CALLI

Lizard Source - Outdoor cage

Temperature - 25°C

Jar	Lizard No.	Sex	Weight (gms.)	Date	Time (min.)	Blank		Manometer		Total O <sub>2</sub> 0 <sub>2</sub> /hr.	O <sub>2</sub> (cc/gm/hr)		
						start	stop	start	stop				
1	101	♂	17.4	8/16/63	10	.50	.58	.91	.36	.63	3.78	.21	
					"	10	.60	.75	.98	.24	.89	5.34	.30
					"	8	.46	.49	.91	.02	.92	6.90	.39
3	200+109	♀	15.0	8/16/63	10	.35	.48	.74	.15	.72	4.32	.28	
					"	<del>5</del>	<del>.43</del>	<del>.50</del>	<del>.66</del>	<del>.02</del>	<del>.71</del>	<del>8.52</del>	<del>.56</del>
					"	10	.57	.70	.92	.34	.71	4.26	.28
6	103	♂	16.2	"	10	.35	.48	.78	.59	.32	1.92	.11	
					"	10	.43	.52	.85	.42	.52	3.12	.19
					"	10	.57	.70	.87	.76	.24	1.44	.08
5	287	♀	14.8	"	10	.35	.48	.66	.12	.67	4.02	.27	
					"	9	.43	.51	.68	.00	.76	5.07	.34
					"	9	.57	.68	.83	.02	.92	6.14	.41
5	86	♀	18.0	"	5	.50	.53	.90	<sup>0.4</sup> <sub>(Active)</sub>	.89	10.68	.59	
					"	5	.60	.67	.92	<sup>0.9</sup> <sub>(Active)</sub>	.80	9.60	.53
					"	6	.46	.48	.90	<sup>0.2</sup> <sub>(Active)</sub>	.90	9.00	.50
1	97	♀	20.0	"	10	.35	.48	.54	.20	.47	2.82	.14	
					"	8	.43	.51	.71	.01	.78	5.85	.29
					"	10	.57	.70	.91	.31	.73	4.38	.21
4	299	♂	14.3	"	<del>4</del>	<del>.50</del>	<del>.53</del>	<del>.79</del>	<sup>0.3</sup> <sub>(Active)</sub>	.79	11.85	.82	
					"	<del>5</del>	<del>.60</del>	<del>.67</del>	<del>.89</del>	<sup>0.9</sup> <sub>(Active)</sub>	.87	10.44	.73
					"	8	.46	.49	.90	.22	.71	5.32	.37
2	110	♀	18.7	"	10	.50	.58	.90	.54	.44	2.64	.14	
					"	10	.60	.75	.95	.60	.50	3.00	.16
					"	10	.46	.50	.91	.37	.58	3.48	.18
4	117	♂	16.4	"	10	.35	.48	.75	.10	.78	4.68	.28	
					"	8	.43	.51	.64	.03	.69	5.18	.31
					"	10	.57	.70	.82	.16	.79	4.74	.28
3	105	♂	12.1	"	10	.50	.58	.76	.40	.44	2.64	.21	
					"	10	.60	.75	1.00	.90	.25	1.50	.12
					"	10	.46	.50	.99	.39	.64	3.84	.30

Barometer: 8/16/63 - 732 mm



## PHRYNOSOMA M'CALLI

Lizard Source - Cold room

Temperature - 25°C

Jar	Lizard No.	sex	Weight (gms.)	Date	Time (min.)	Blank		Manometer			Total O <sub>2</sub> /hr (cc/gm/hr)	O <sub>2</sub> % (cc/gm)
						start	stop	start	stop	corrected		
1	103	♂	14.1	9/2/63	10	.44	.51	.85	.20	.72	4.32	.30
					"	.54	.61	.76	.03	.80	4.80	.34
					"	.65	.73	.79	.00	.87	5.22	.37
					"	.75	.83	.83	.16	.75	4.50	.31
2	105	♂	10.3		10	.44	.51	.82	.48	.41	2.46	.23
					"	.54	.61	.83	.27	.63	3.78	.36
					"	.65	.73	.82	.48	.42	2.52	.24
					"	.75	.83	.87	.18	.77	4.62	.44
3	110	♀	16.7		10	.44	.51	.80	.26	.61	3.66	.21
					"	.54	.61	.85	.22	.70	4.20	.25
					"	.65	.73	.82	.00	.90	5.40	.32
					"	.75	.83	.76	.42	.42	2.52	.15
4	97	♀	20.0		10	.44	.51	.70	.26	.51	3.01	.15
					"	.54	.61	.76	.05	.78	4.68	.23
					"	.65	.73	.78	.23	.63	3.78	.18
					"	.75	.83	.76	.16	.68	4.08	.20
5	<del>200+107</del>	<del>♀</del>	12.6		10	.44	.51	.84	.00	.91	5.46	.43
299		♂			8	.54	.61	.71	.02	.76	5.70	.45
					6	.65	.71	.74	.03	.77	7.70	.61
					"	.75	.80	.76	.05	.76	5.70	.45

Barometer: 732 mm.



Lizard Source - Cold room

Temperature - 25°C

Jar	Lizard No.	Sex	Weight (gms)	Date	Time (min)	Blank		Manometer		Total O <sup>2</sup> /hr	O <sup>2</sup> (cc/gm/hr)
						start	stop	start	stop corrected		
1	117	♂	14.1	9/3/63	10	.60	.75	.89	.26	.78	4.68 .33
					"	.77	.85	.77	.11	.74	4.44 .31
					"	.90	.99	.79	.37	.51	5.10 .36
					6	.57	.63	.80	.02	.84	8.40 .59
2	287	♀	13.5	"	10	.60	.75	.92	.49	.58	3.48 .25
					"	.77	.85	.91	.21	.78	4.68 .34
					"	.90	.99	.78	.36	.51	5.10 .37
					"	.57	.62	.70	.00	.75	4.50 .33
3	200+109	♀	13.2	"	10	.60	.75	.72	.01	.86	5.16 .39
					"	.77	.85	.77	.04	.81	4.86 .36
					"	.90	.99	.83	.46	.46	4.60 .34
					"	.57	.62	.85	.13	.77	4.62 .35
4	86	♀	16.2	"	10	.60	.75	.84	.71	.28	1.68 .10
					"	.77	.85	.74	.68	.14	0.84 .05
					"	.90	.99	.74	.70	.13	1.30 .08
					"	.57	.62	.76	.63	.18	1.08 .06
5	101	♂	15.3	"	10	.60	.75	.91	.57	.49	2.94 .19
					"	.77	.85	.87	.21	.74	4.44 .29
					"	.90	.99	.95	.85	.19	1.90 .12
					"	.57	.62	.77	.29	.53	3.18 .20

Barometer: 732 mm.



Lizard source — 15°C cage (dark)

25°C

Jar	Lizard	Weight (gms)	Sex	Date	Time (min)	Blank		Manometer			Total O <sub>2</sub> /hr	O <sub>2</sub> (cc/gm/hr)
	No.					start	stop	start	stop	corrected		
2	85	20.1	f	12/11/63	15	.66	.63	.75	.09	.63	2.52	.12
					10	.61	.58	.83	.35	.45	2.70	.13
					10	.58	.59	.80	.32	.49	2.94	.15
6	45	9.4	♂	12/13/63	10	.56	.56	.79	.70	.09	0.54	.06
					10	.55	.50	.70	.59	.06	0.36	.04
					10	.49	.43	.77	.60	.11	0.66	.07
4	86	19.8	♀	12/16/63	20	.62	.75	.89	.88	.14	0.42	.02
					20	.76	.85	.87	.66	.30	0.90	.05
					20	.59	.58	.63	.35	.27	0.81	.04
3	103+20+30	17.3	♂	12/17/63	10	.60	.70	.86	.61	.35	2.10	.12
					10	.50	.64	.88	.84	.18	1.08	.06
					10	.65	.68	.81	.72	.12	0.72	.04
8	200+109	14.6	♀	12/18/63	15	.55	.56	.81	.30	.52	2.08	.14
					15	.55	.55	.59	.27	.32	1.28	.09
					6	.56	.55	.67	.11	.55	5.50	.38



Lizard source - 15°C cage (7 hrs. light)

25°C

Jar	Lizard No.	Sex	Weight (gms)	Date	Time (min)	Blank		Manometer			Total O <sub>2</sub> /hr	O <sub>2</sub> (cc/gm/hr)
						start	stop	start	stop	corrected		
1	81	♂	16.3	12/11/63	15	.66	.63	.95	.40	.52	2.08	.13
					10	.61	.58	.91	.54	.34	2.04	.12
					10	.58	.59	.95	.66	.30	1.80	.11
4	299	♂	14.0	12/13/63	10	.56	.56	.90	.69	.21	1.26	.09
					10	.55	.50	.67	.42	.20	1.20	.08
					10	.49	.43	.86	.60	.20	1.20	.08
6	67	♀	17.0	12/16/63	20	.62	.75	.85	.83	.15	0.45	.03
					20	.76	.85	.78	.47	.40	1.20	.07
					20	.59	.58	.76	.43	.32	0.96	.06
6	54	♂	13.5	12/17/63	10	.60	.70	.70	.47	.33	1.98	.15
					10	.50	.64	.68	.34	.48	2.88	.21
					10	.65	.68	.83	.39	.47	2.82	.21
5	71	♂	20.3	12/18/63	15	.55	.56	.90	.73	.18	0.72	.04
					15	.55	.55	.94	.68	.26	1.04	.05
					10	.56	.53	.96	.63	.30	1.80	.09
3	41	♀	17.1	12/20/63	10	.62	.75	.89	.44	.58	3.48	.20
					10	.57	.73	.87	.54	.49	2.94	.17
					10	.75	.91	.80	.38	.58	3.48	.20
					10	.44	.50	.89	.58	.37	2.22	.13



Lizard source - 25°C cage

25°C

Jar	Lizard No.	Sex	Weight (gms)	Date	Time (min)	Blank		Manometer			Total O <sub>2</sub> /hr (cc/gm/hr)	O <sub>2</sub>
						start	stop	start	stop	corrected		
5	297	♂	17.8	12/11/63	8	.66	.64	.70	.11	.57	4.28	.24
					10	.61	.58	.89	.28	.58	3.48	.20
					10	.58	.59	.92	.30	.63	3.78	.21
5	97	♀	16.6	12/13/63	10	.56	.56	.86	.61	.25	1.50	.09
					10	.55	.50	.78	.26	.47	2.82	.17
					10	.49	.43	.84	.24	.54	3.24	.20
1	39	♀	17.6	12/16/63	20	.62	.75	.90	.86	.17	0.51	.03
					20	.76	.85	.82	.58	.33	0.99	.06
					20	.59	.58	.62	.32	.29	0.87	.05
2	102	♀	20.0	12/17/63	10	.60	.70	.74	.00	.84	5.04	.25
					7	.50	.62	.85	.05	.92	7.91	.40
					10	.65	.68	.90	.66	.27	1.62	.08
3	37	♀	18.5	12/18/63	9	.55	.59	.69	.00	.73	4.87	.26
					12	.55	.54	.84	.11	.72	3.60	.19
					6	.56	.55	.84	.33	.50	5.00	.27
1	108	♂	10.4	12/18/63	15	.55	.56	.79	.70	.10	0.40	.04
					15	.55	.55	.67	.61	.06	0.24	.02
					10	.56	.53	.61	.57	.01	0.06	.01
7	87	♂	13.3	12/18/63	15	.55	.56	.90	.46	.45	1.80	.14
					15	.55	.55	.81	.43	.38	1.52	.11
					10	.56	.53	.78	.41	.34	2.04	.15
6	64	♀	19.4	12/18/63	15	.55	.56	.85	.30	.56	2.24	.12
					15	.55	.55	.95	.85	.10	0.40	.02
					10	.56	.53	.87	.71	.13	0.78	.04
8	29	♀	12.5	12/19/63	20	.59	.77	.95	—	—	—	—
					15	.59	.64	.74	.24	.55	2.20	.18
					15	.67	.69	.80	.48	.34	1.36	.11
6	23	♀	17.5	12/19/63	20	.59	.77	.88	.58	.48	1.44	.08
					15	.59	.64	.74	.06	.63	2.52	.14
					15	.67	.69	.72	.45	.29	1.16	.07



Lizard source - 25°C cage

25°C

Jar	Lizard No.	Sex	Weight (gms)	Date	Time (min)	Blank	Manometer			Total O <sub>2</sub> /hr	O <sub>2</sub> (cc/gm/hr)
							start	stop	corrected		
1	292	♂	14.3	12/20/63	10	.62	.75	.91	.90	.14	0.84 .06
					10	.57	.73	.91	.94	.13	0.78 .05
					10	.75	.91	.94	.96	.14	0.84 .06
					10	.44	.50	.96	.97	.05	0.30 .02



## PHRYNOSOMA NIGRICANUM

Lizard source - 35°C cage

25°C

Jar	Lizard No.	Sex	Weight (gms)	Date	Time (min)	Blank start stop	Manometer start stop	corrected	Total O <sub>2</sub> /hr (cc/gm/hr)	O <sub>2</sub>
6	40	♀	13.5	12/11/63	15 (OK)	.66 .63	.75 .08	.64	2.56	.19
					10	.61 .58	.88 .68	.17	1.08	.08
					10	.58 .59	.64 .55	.10	0.60	.04
3	95	♀	12.8	12/13/63	10	.56 .56	.88 .73	.15	0.90	.07
					10	.55 .50	.72 .48	.19	1.14	.09
					10	.49 .43	.88 .65	.17	1.02	.08
1	17	♂	7.4	12/14/63	10	.59 .66	.93 .90	.10	0.60	.08
					10	.63 .66	.93 .88	.08	0.48	.06
					10	.67 .66	.90 .81	.08	0.48	.06
3	80	♀	10.0	12/14/63	10	.59 .66	.94 .88	.13	0.78	.08
					10	.63 .66	.92 .78	.17	1.02	.10
					10	.67 .66	.79 .45	.33	1.98	.20
6	117	♂	11.6	12/14/63	10	.59 .66	.91 .33	.65	3.90	.34
					10	.63 .66	.70 .08	.65	3.90	.34
					10	.67 .66	.81 .01	.79	4.74	.41
2	89	♂	10.2	12/14/63	10	.59 .66	.83 .46	.44	2.64	.26
					10	.63 .66	.80 .38	.45	2.70	.26
					10	.67 .66	.84 .33	.50	3.00	.29
2	15	♂	8.2	12/16/63	20	.62 .75	.98 1.03	.18	0.54	.06
					20	.76 .85	.88 .82	.15	0.45	.05
					20	.59 .58	.83 .71	.11	0.33	.04
5	201+3	♂	9.3	12/16/63	20	.62 .75	.82 .27	.68	2.04	.22
					20	.76 .85	.83 .16	.76	2.28	.24
					20	.59 .58	.85 .12	.72	2.16	.23
1	114	♀	6.4	12/17/63	10	.60 .70	.83 .81	.12	0.72	.11
					10	.50 .64	.93 .93	.14	0.84	.13
					10	.65 .68	.92 .88	.07	0.42	.06
5	56	♂	8.2	12/17/63	10	.60 .70	.82 .51	.41	2.46	.30
					10	.50 .64	.84 .65	.33	1.98	.24
					10	.65 .68	.77 .47	.33	1.98	.24



## Lizard source - Outdoor cage

25°C

<u>Jar</u>	<u>Lizard No.</u>	<u>Sex</u>	<u>Weight (gms)</u>	<u>Date</u>	<u>Time (min)</u>	<u>Blank</u>	<u>Manometer</u>	<u>Total O<sub>2</sub> / hr</u>	<u>O<sub>2</sub> (cc/gm/hr)</u>			
						<u>start</u>	<u>stop</u>	<u>corrected</u>				
4	121	♂	13.1	12/11/63	8	.66	.64	.75	.06	.67	5.02	.38
					8	.61	.59	.79	.05	.72	5.40	.41
					10	.58	.59	.89	.78	.12	0.72	.05
3	122	♂	16.3	12/11/63	15	.66	.63	.85	.59	.23	0.92	.06
					10	.61	.58	.82	.54	.25	1.50	.09
					10	.58	.59	.91	.67	.25	1.50	.09
2	116	♀	22.3	12/13/63	10	.56	.56	.95	.55	.40	2.40	.11
					10	.55	.50	.84	.34	.45	2.70	.12
					10	.49	.43	.85	.50	.29	1.74	.08
1	208+100	♀	21.0	12/13/63	10	.56	.56	.92	.73	.19	1.14	.05
					10	.55	.50	.72	.50	.17	1.02	.05
					10	.49	.43	.92	.69	.17	1.02	.05
4	69	♂	18.7	12/14/63	10	.59	.66	.90	.86	.11	0.66	.04
					10	.63	.66	.85	.75	.13	0.78	.04
					10	.67	.66	.73	.58	.14	0.84	.04
5	106	♀	17.0	12/14/63	10	.59	.66	.91	.95	.03	0.18	.01
					10	.63	.66	.76	.31	.48	2.88	.17
					10	.67	.66	—	—	—	—	—
3	93	♂	13.7	12/16/63	10	.62	.71	.84	.20	.73	4.38	.32
					8	.72	.75	.79	.03	.79	5.92	.43
					9	.76	.81	.87	.03	.89	5.94	.43
					8	.81	.84	.86	.12	.77	5.78	.42
4	49	♀	15.3	12/17/63	10	.60	.70	.81	.53	.38	2.28	.15
					10	.50	.64	.80	.27	.67	4.02	.26
					10	.65	.68	.80	.34	.49	2.94	.19
2	208	♀	20.0	12/18/63	10	.55	.58	.82	.08	.77	4.62	.23
					3	.56	.56	.80	.12	.68	13.60	—
					6	.55	.55	.74	.06	.68	6.80	.34
1	213	♂	13.5	12/19/63	20	.59	.77	.80	.16	.82	2.46	.18
					12	.59	.63	.77	.06	.75	3.75	.28
					10	.67	.69	.81	.12	.71	4.26	.32



## PHRYNOGLOSSUS LIZARD

Lizard source — Outdoor cage

25° C

Jar	Lizard No.	Sex	Weight (gms)	Date	Time (min)	Blank		Manometer			Total O <sub>2</sub> /hr	O <sub>2</sub> (cc/gm/hr)
						start	stop	start	stop	corrected		
4	88	♀	24.3	12/18/63	15	.55	.56	.79	.27	.53	2.12	.09
					15	.55	.55	.72	.02	.70	2.80	.12
					10	.56	.53	.79	.20	.56	3.36	.14
3	123	♀	21.0	12/19/63	20	.59	.77	.61	.12	.67	2.01	.10
					14	.59	.64	.73	.06	.72	3.02	.14
					8	.67	.69	.79	.30	.51	3.82	.18
4	63	♂	15.3	12/19/63	20	.59	.77	.96	.54	.60	1.80	.12
					15	.59	.64	.82	.12	.75	3.00	.20
					12	.67	.69	.74	.05	.71	3.55	.23
5	72	♀	16.2	12/19/63	20	.59	.77	.81	.69	.30	0.90	.06
					15	.59	.64	.68	.67	.06	0.24	.01
					15	.67	.69	.75	.47	.30	1.20	.07
2	92	♀	12.7	12/19/63	20	.59	.77	.82	.90	.10	0.30	.02
					15	.59	.64	.89	.43	.51	2.04	.16
					10	.67	.69	.77	.09	.70	4.20	.33
2	16	♂	16.5	12/20/63	10	.62	.75	.90	.93	.10	0.60	.04
					10	.57	.73	.90	.97	.09	0.54	.03
					10	.75	.91	.86	.94	.08	0.48	.03
4	203+1	♂	13.8	12/20/63	10	.62	.75	.80	.42	.51	3.06	.22
					10	.57	.73	.79	.24	.71	4.26	.31
					10	.75	.91	.85	.38	.63	3.78	.27
					10	.44	.50	.81	.22	.65	3.90	.28



## PHRYNOSOMA MCALI

Lizard Source - Field (caught 8/22/63)

Temperature - 35°C

Jar	Lizard No.	Sex	Weight (gms.)	Date	Time (min.)	Blank		Manometer		Total O <sup>2</sup> 0 <sup>2</sup> /hr. (cc/gm/hr.)	O <sup>2</sup> 0 <sup>2</sup> /hr. (cc/gm/hr.)	
						start	stop	start	stop			
1	120	♂	12.0	8/23/63	6	.48	.49	.76	.56	.21	2.10 .17	
					"	.51	.49	.52	.54	-	- -	
					"	.49	.46	.80	.08	.69	8.28 .69	
					"	.45	.43	.76	.40	.34	4.08 .34	
2	122	♂	15.6		6	.48	.49	.91	.68	.24	2.40 .15	
					"	.51	.49	.62	.40	.20	2.40 .15	
					"	.49	.46	.83	.36	.44	5.28 .33	
					"	.45	.43	.71	.03	.66	7.92 .50	
3	124	♀	15.3	"	3.5	.51	.50	.97	.00	.96	16.45 1.07	
					"	.49	.46	.76	.02	.71	8.52 .55	
					"	.45	.43	.95	.94	-	- -	
					—	—	—	—	—	—	—	
4	121	♂	10.3	"	6	.48	.49	.77	.65	.13	1.30 .12	
					"	.51	.49	.59	.45	.12	1.44 .13	
					"	.49	.46	.41	.25	.13	1.56 .15	
					"	.45	.43	.70	.50	.18	2.16 .20	
5	125	♀	12.6	"	6	.48	.49	.82	.47	.36	3.60 .28	
					"	.51	.49	.42	.23	.17	2.04 .16	
					"	.49	.46	.78	.47	.28	3.36 .26	
					"	.45	.43	.80	.65	.13	1.56 .12	
6	119	♀	14.4	"	6	.48	.49	.78	.69	.10	1.00 .06	
					"	.51	.49	.61	.59	-	- -	
					"	.49	.46	.41	.27	.11	1.32 .09	
					"	.45	.43	.71	.55	.14	1.68 .11	
7	118	♀	18.3	"	6	.48	.49	.92	.65	.28	2.80 .15	
					"	.51	.49	.57	.38	.17	2.04 .11	
					"	.49	.46	.85	.66	.16	1.92 .10	
					"	.45	.43	.52	.15	.35	4.20 .22	
8	123	♀	20.0	"	4	.51	.49	.85	.26	.57	8.55 .42	
					"	.51	.49	.82	.72	.08	0.96 .04	
(over) Barometer: 733 mm.						"	.49	.46	.97	.50	.44	5.28 .26

Jar	Lizard	Sex	Weight	Date	Time	Blank		Manometer			Total O <sup>2</sup> /hr	(cc/gm/hr)
						start	stop	start	stop	corrected		
8	123	♀	20.0	8/23/63	5	.45	.43	.69	.12	.55	6.60	,33

## PHRYNOSOMA M'CALLI

Lizard Source - Outdoor cage

Temperature - 35 °C

<u>Jar</u>	<u>Lizard No.</u>	<u>Sex</u>	<u>Weight (gms.)</u>	<u>Date</u>	<u>Time (min.)</u>	<u>Blank</u>		<u>Manometer</u>		<u>Total O<sub>2</sub> hr.</u>	<u>O<sub>2</sub> / gm / hr.</u>
						<u>start</u>	<u>stop</u>	<u>start</u>	<u>stop</u>	<u>corrected</u>	
1	86	♀	18.0	8/19/63	10	.55	.37	.92	.29	.45	2.70 .15
3	117	♂	16.4	"	10	.55	.37	.79	.26	.35	2.10 .12
4	97	♀	20.0	"	10	.55	.37	.91	.53	.20	1.20 .06
5	110	♀	18.7	"	10	.55	.37	.89	.23	.48	2.88 .15
1	103	♂	16.2	"	5	.39	.38	.84	.10	.73	8.76 .54
2	105	♂	12.1	"	5	.39	.38	.89	.72	.16	1.92 .15
3	299	♂	14.3	"	5	.39	.38	.76	.02	.73	8.76 .61
4	101	♂	17.4	"	5	.39	.38	.84	.60	.23	2.76 .15
5	287	♀	14.8	"	3	.39	.37	.67	.01	.64	12.80 .86

Field animals, caught 8/18/63

1	Juv.	♀	3.9	8/19/63	10	.60	.62	.84	.12	.74	4.44 1.13
					"	.5	.64	.68	.86	.40	.50 6.00 1.53
					"	10	.70	.79	.86	.63	.32 1.92 .49
					"	5	.79	.83	.94	.93	.05 0.60 .15
2	Ad.	♂	12.7	"	10	.60	.62	.72	.62	.12	0.72 .05
					"	10	.70	.79	.90	.40	.59 3.54 .27
					"	5	.79	.83	.75	.04	.75 9.00 .70
					"	5	.84	.85	.79	.16	.64 7.68 .60
3	Ad.	♀	11.5	"	5	.84	.85	.87	.46	.42	5.04 .43
					"	5	.64	.68	.89	.08	.85 10.20 .88
					"	8	.70	.74	.94	.04	.94 7.05 .61
					"	5	.79	.83	.75	.44	.35 4.20 .36
1	Juv.	♀	3.9	"	5	.84	.85	.97	.89	.09	1.08 .27

Barometer: 8/19/63 - 732 mm.



## PHRYNOSOMA McCALLI

Lizard Source - Outdoor cage

Temperature - 35 °C

Jar	Lizard No.	Weight (gms.)	Date	Time (min.)	Blank		Manometer		Total O <sup>2</sup> corrected	O <sup>2</sup> /hr.	O <sup>2</sup> (cc/gm/hr)	
					Start	Stop	Start	Stop				
1	101	17.4	8/19/63	5	.40	.33	.87	.68	.12	1.44	.08	
				"	5	.35	.35	.66	.36	.30	3.60	.20
				"	5	.37	.40	.79	.64	.18	2.16	.12
2	200+109	15.0		5	.33	.36	.89	.76	.16	1.92	.12	
				"	10	.38	.60	.91	.77	.36	2.16	.14
				"	10	.55	.37	.95	.40	.37	2.22	.14
103	103	16.2		5	.40	.33	.85	.23	.55	6.60	.40	
				"	5	.35	.35	.77	.07	.70	8.40	.51
				"	5	.37	.40	.74	.50	.27	3.24	.20
287	287	14.8		4	.40	.35	.75	.08	.62	9.30	.62	
				"	5	.35	.35	.82	.63	.19	2.28	.15
				"	4	.37	.39	.87	.12	.77	11.55	.78
1	86	18.0		5	.27	.30	.97	.89	.11	1.32	.07	
				"	5	.33	.36	.93	.85	.11	1.32	.07
				"	10	.38	.60	.86	.63	.45	2.70	.15
4	97	20.0		5	.27	.30	.83	.18	.68	8.16	.40	
				"	5	.33	.36	.94	.64	.33	3.96	.19
				"	10	.38	.60	.83	.46	.59	3.54	.17
299	299	14.3		4	.40	.35	.68	.03	.60	9.00	.62	
				"	5	.35	.35	.82	.62	.20	2.40	.16
				"	5	.37	.40	.76	.10	.69	8.28	.57
5	110	18.7		4	.27	.30	.61	.00	.64	9.60	.51	
				"	5	.33	.36	.91	.53	.41	4.92	.26
				"	10	.38	.60	.92	.65	.49	2.9 <sub>x</sub> 4	.15
3	117	16.4		5	.27	.30	.90	.00	.93	11.16	.68	
				"	5	.33	.36	.93	.65	.31	3.72	.22
				"	10	.38	.60	.97	.73	.46	2.76	.16
105	105	12.1		5	.40	.33	.94	.76	.11	1.32	.10	
				"	5	.35	.35	.74	.53	.21	2.52	.20
				"	5	.37	.40	.81	.63	.21	2.52	.20

Barometer: 734 mm. (8/19/63)



## PHRYNOSOMA M'CAULI

Lizard Source - Cold room

Temperature - 35°C

Jar	Lizard No.	Sex	Weight (gms.)	Date	Time (min.)	Blank		Manometer		Total O <sub>2</sub> /hr	O <sub>2</sub> (cc/gm/hr)
						start	stop	start	stop		
1	103	♂	14.1	9/2/63	5	.47	.48	.93	.46	.48	5.76 .40
					" 5	.48	.49	.83	.51	.33	3.96 .28
					" 5	.49	.48	.93	.74	.18	2.16 .15
					" 5	.48	.49	.70	.05	.66	7.92 .56
2	105	♂	10.3		" 5	.47	.48	.88	.66	.23	2.76 .26
					" 5	.48	.49	.58	.31	.28	3.36 .32
					" 5	.49	.48	.85	.63	.21	2.54 .24
					" 5	.48	.49	.60	.40	.21	2.54 .24
3	110	♀	16.7		" 5	.47	.48	.62	.22	.41	4.92 .29
					" 5	.48	.49	.80	.53	.28	3.36 .20
					" 5	.49	.48	.84	.70	.13	1.56 .09
					" 5	.48	.49	.67	.45	.23	2.76 .16
4	97	♀	20.0		" 5	.47	.48	.77	.65	.13	1.56 .07
					" 5	.48	.49	.59	.39	.21	2.54 .12
					" 5	.49	.48	.77	.51	.25	3.00 .15
					" 5	.48	.49	.47	.39	.09	1.08 .05
5	<del>100</del> 299	♂	12.6		" 5	.47	.48	.52	.05	.48	5.76 .45
					" 5	.48	.49	.72	.00	.73	8.76 .69
					" 4	.49	.48	.70	.08	.61	9.15 .72
					" —	—	—	—	—	—	—

Barometer: 731 mm.



## PHRYNOSOMA M'CALLI

Lizard Source - Cold room

Temperature - 35°C

<u>Jar</u>	<u>Lizard No.</u>	<u>sex</u>	<u>Weight (gms)</u>	<u>Date</u>	<u>Time (min)</u>	<u>Blank</u>		<u>Manometer</u>			<u>Total O<sup>2</sup>/hr. (cc/gm/hr)</u>
						<u>start</u>	<u>stop</u>	<u>start</u>	<u>stop</u>	<u>corrected</u>	
1	117	♂	14.1	9/3/63	5	.50	.54	.63	.15	.52	6.24 .44
					"	.55	.58	.93	.25	.71	8.52 .60
					"	.56	.56	.77	.04	.73	8.76 .62
					"	.60	.64	.97	.30	.71	8.52 .60
2	287	♀	13.5		5	.50	.54	.80	.31	.53	6.36 .47
					"	.55	.58	.83	.18	.68	8.16 .60
					"	.56	.56	.80	.15	.65	7.80 .57
					"	.60	.64	.81	.10	.75	9.00 .66
3	200+109	♀	13.2		5	.50	.54	.86	.68	.22	2.64 .20
					"	.55	.58	.62	.35	.30	3.60 .27
					"	.56	.56	.87	.53	.34	4.08 .30
					"	.60	.64	.50	.36	.18	2.16 .16
4	86	♀	16.2		5	.50	.54	.81	.75	.10	1.20 .07
					"	.55	.58	.76	.70	.09	1.08 .06
					"	.56	.56	.67	.63	.04	0.48 .02
					"	.60	.64	.63	.59	.08	0.96 .05
5	101	♂	15.3		5	.50	.54	.83	.77	.10	1.20 .07
					"	.55	.58	.74	.56	.21	2.52 .16
					"	.56	.56	.52	.36	.16	1.92 .12
					"	.60	.64	.65	.37	.32	3.84 .25

Barometer: 732 mm.



## PHRYNOSOMA MCALPINI

Lizard source - 15°C cage (dark)

35°C

<u>Jar</u>	<u>Lizard No.</u>	<u>Sex</u>	<u>Weight (gms)</u>	<u>Date</u>	<u>Time (min)</u>	<u>Blank</u>	<u>Manometer</u>		<u>Total O<sub>2</sub>/hr</u>	<u>O<sub>2</sub> (cc/gm/hr)</u>	
						<u>start</u>	<u>stop</u>	<u>start</u>	<u>stop</u>	<u>corrected</u>	
2	85	♀	20.1	12/11/63	5	.56	.56	.82	.60	.22	2.64 .13
					5	.56	.57	.58	.32	.27	3.24 .16
					5	.54	.50	.75	.47	.24	2.88 .14
					5	.49	.44	.89	.60	.24	2.88 .14
6	45	♂	9.4	12/13/63	10	.54	.43	.97	.67	.19	1.14 .12
					10	.41	.36	.95	.75	.15	0.90 .10
					10	.37	.30	.90	.68	.15	0.90 .10
4	86	♀	19.8	12/16/63	10	.36	.34	.74	.42	.30	1.80 .09
					10	.36	.36	.84	.48	.36	2.16 .11
					10	.36	.30	.83	.45	.32	1.92 .10
3	103+20+30	♂	17.3	12/17/63	10	.43	.51	.76	.55	.29	1.74 .10
					10	.51	.52	.54	.22	.33	1.98 .11
					10	.52	.53	.80	.27	.54	3.24 .19
8	200+109	♀	14.6	12/18/63	10	.50	.52	.74	.39	.37	2.22 .15
					10	.48	.48	.64	.32	.32	1.92 .13
					10	.46	.46	.75	.42	.33	1.98 .14



Lizard source - 15°C cage (7 hrs. light)

35°C

Jar	Lizard No.	Sex	Weight (gms)	Date	Time (min)	Blank		Manometer			Total O <sub>2</sub> O <sub>2</sub> /hr (cc/gm/hr)
						start	stop	start	stop	corrected	
1	81	♂	16.3	12/11/63	5	.56	.56	.82	.72	.10	1.20 .07
					5	.56	.57	.58	.29	.30	3.60 .22
					5	.54	.50	.82	.52	.26	3.12 .19
					5	.49	.44	.40	.29	.06	0.72 .04
4	299	♂	14.0	12/13/63	10	.54	.43	.84	.48	.25	1.50 .11
					10	.41	.36	.94	.51	.38	2.28 .16
					10	.37	.30	.86	.47	.32	1.92 .14
6	67	♀	17.0	12/16/63	10	.36	.34	.72	.41	.29	1.74 .10
					10	.36	.36	.82	.44	.38	2.28 .13
					10	.36	.30	.81	.44	.31	1.86 .11
6	54	♂	13.5	12/17/63	10	.43	.51	.79	.57	.30	1.80 .13
					10	.51	.52	.77	.49	.29	1.74 .13
					10	.52	.53	.78	.69	.10	0.60 .04
5	71	♂	20.3	12/18/63	10	.50	.52	.81	.04	.79	4.74 .23
					10	.48	.48	.92	.52	.40	2.40 .12
					10	.46	.46	.75	.24	.51	3.06 .15
3	41	♀	17.1	12/20/63	10	.55	.49	.80	.41	.33	1.98 .12
					10	.49	.50	.82	.45	.38	2.28 .13
					10	.48	.58	.81	.55	.36	2.16 .13



## PHRYNOCSOMA McALLI

Lizard source - 25°C cage

35°C

Jar	Lizard No.	sex	Weight (gms)	Date	Time (min)	Blank		Manometer			Total O <sub>2</sub> /hr (cc/gm/hr)	O <sub>2</sub> 13
						start	stop	start	stop	corrected		
5	297	♂	17.8	12/11/63	5	.56	.56	.86	.67	.19	2.28	.13
					5	.56	.57	.64	.53	.12	1.44	.08
					5	.54	.50	.88	.63	.21	2.52	.14
					5	.49	.44	.59	.43	.11	1.32	.07
5	97	♀	16.6	12/13/63	10	.54	.43	.98	.58	.29	1.74	.10
					10	.41	.36	.89	.62	.22	1.32	.08
					10	.37	.30	.92	.57	.28	1.68	.10
1	39	♀	17.6	12/16/63	10	.36	.34	.85	.59	.24	1.44	.08
					10	.36	.36	.86	.41	.45	2.70	.15
					10	.36	.30	.84	.32	.46	2.76	.16
2	102	♀	20.0	12/17/63	10	.43	.51	.81	.69	.20	1.20	.06
					6	.51	.52	.67	.11	.57	5.70	.28
					6	.52	.53	.73	.25	.49	4.90	.25
3	37	♀	18.5	12/18/63	10	.50	.52	.89	.03	.88	5.28	.28
					10	.48	.48	.74	.17	.57	3.42	.18
					10	.46	.46	.84	.38	.46	2.76	.15
1	108	♂	10.4	12/18/63	10	.50	.52	.84	.57	.29	1.74	.17
					10	.48	.48	.77	.58	.19	1.14	.11
					10	.46	.46	.84	.51	.29	1.74	.17
7	87	♂	13.3	12/18/63	10	.50	.52	.86	.66	.22	1.32	.10
					10	.48	.48	.57	.39	.18	1.08	.08
					10	.46	.46	.79	.54	.25	1.50	.11
6	64	♀	19.4	12/18/63	10	.50	.52	.89	.56	.35	2.10	.11
					10	.48	.48	.51	.31	.20	1.20	.06
					10	.46	.46	.77	.48	.29	1.74	.09
8	29	♀	12.5	12/19/63	10	.58	.59	.70	.59	.12	0.72	.06
					10	.60	.62	.56	.39	.19	1.14	.09
					10	.57	.54	.77	.47	.27	1.62	.13
6	23	♀	17.5	12/19/63	7	.58	.62	.58	.00	.62	5.27	.30
					8	.60	.62	.88	.13	.77	5.78	.33
					5	.57	.60	.67	.18	.52	6.24	.36



## PHRYNOCEPHALUS CALI

Lizard source - 25°C cage

35°C

Jar	Lizard	weight	Date	Time (min)	Blank		Manometer			Total O <sub>2</sub> /hr	O <sub>2</sub> (cc/gm/hr)	
	No.	Sex			start	stop	start	stop	corrected			
1	292	♂	14.3	12/20/63	10	.55	.49	.98	.10	.82	4.92	.34
					8	.49	.52	.85	.00	.88	6.60	.46
					8	.48	.58	.94	.16	.88	6.60	.46



Lizard source - 35°C cage

35°C

Jar	Lizard No.	Sex	Weight (gms)	Date	Time (min)	Blank		Manometer			Total O <sub>2</sub> /hr (cc/gm/hr)	O <sub>2</sub> (cc/gm/hr)
						start	stop	start	stop	corrected		
6	40	♀	13.5	12/11/63	5	.56	.56	.84	.80	.04	0.36	.03
					5	.56	.57	.78	.73	.06	0.72	.05
					5	.54	.50	.72	.70	—	—	—
					5	.49	.44	.69	.66	—	—	—
3	95	♀	12.8	12/13/63	10	.54	.43	.74	.26	.37	2.22	.17
					10	.41	.36	.83	.53	.25	1.50	.12
					10	.37	.30	.90	.58	.25	1.50	.12
1	17	♂	7.4	12/14/63	10	.57	.57	.96	.84	.12	0.72	.10
					10	.56	.54	.79	.61	.16	0.96	.13
					10	.54	.49	.58	.37	.19	1.14	.15
3	80	♀	10.0	12/14/63	10	.57	.57	.84	.53	.31	1.86	.19
					10	.56	.54	.83	.31	.50	3.00	.30
					10	.54	.49	.91	.59	.27	1.62	.16
6	117	♂	11.6	12/14/63	8	.57	.57	.85	.00	.85	6.38	.55
					8	.56	.53	.90	.00	.87	6.52	.56
					8	.54	.51	.87	.03	.81	6.08	.52
2	89	♂	10.2	12/14/63	10	.57	.57	.83	.22	.61	3.66	.36
					10	.56	.54	.86	.51	.33	1.98	.19
					10	.54	.49	.90	.28	.57	3.42	.34
2	15	♂	8.2	12/16/63	10	.36	.34	.72	.38	.32	1.92	.23
					10	.36	.36	.85	.20	.65	3.90	.48
					5	.32	.29	.93	.30	.60	7.20	.88
5	201+3	♂	9.3	12/16/63	10	.36	.34	.91	.04	.85	5.10	.55
					10	.36	.36	.90	.02	.88	5.28	.57
					8	.36	.31	.85	.03	.77	5.78	.62
1	114	♀	6.4	12/17/63	10	.43	.51	.91	.75	.24	1.44	.22
					10	.51	.52	.72	.67	.06	0.36	.06
					10	.52	.53	.66	.26	.41	2.46	.38
5	56	♂	8.2	12/17/63	10	.43	.51	.75	.10	.73	4.38	.53
					10	.51	.52	.87	.53	.35	2.10	.26
					8	.52	.53	.83	.13	.71	5.32	.65



## Lizard source - Outdoor cage

35°C

Jar	Lizard	Weight	Date	Time	Blank		Manometer			Total	O <sub>2</sub>	
	No.	Sex			(gms)	Date	start	stop	corrected	O <sub>2</sub> /hr	(cc/gm/hr)	
4	121	♂	13.1	12/11/63	5	.56	.56	.83	.71	.12	1.44	.11
					5	.56	.57	.70	.66	.05	0.60	.05
					5	.54	.50	.65	.63	—	—	—
3	122	♂	16.3	12/11/63	5	.56	.56	.77	.45	.32	3.84	.24
					5	.56	.57	.92	.60	.33	3.96	.24
					5	.54	.50	.87	.61	.22	2.64	.16
					5	.49	.44	.58	.33	.20	2.40	.15
2	116	♀	22.3	12/13/63	10	.54	.43	.99	.48	.40	2.40	.11
					10	.41	.36	.76	.29	.42	2.52	.11
					10	.37	.30	.83	.33	.43	2.58	.12
1	208+100	♀	21.0	12/13/63	10	.54	.43	.98	.58	.29	1.74	.08
					10	.41	.36	.86	.42	.39	2.34	.11
					10	.37	.30	.88	.41	.40	2.40	.11
4	69	♂	18.7	12/14/63	10	.57	.57	.93	.69	.24	1.44	.08
					10	.56	.54	.71	.33	.36	2.16	.12
					10	.54	.49	.90	.46	.39	2.34	.12
5	106	♀	17.0	12/14/63	10	.57	.57	.68	.35	.33	1.98	.12
					10	.56	.54	.87	.43	.42	2.52	.15
					10	.54	.49	.83	.25	.53	3.18	.19
3	93	♂	13.7	12/16/63	10	.36	.34	.95	.62	.31	1.86	.14
					10	.36	.36	.59	.15	.44	2.64	.19
					10	.36	.30	.75	.26	.43	2.58	.19
4	49	♀	15.3	12/17/63	6	.43	.50	.81	.20	.69	6.90	.45
					10	.51	.52	.89	.16	.74	4.44	.29
					10	.52	.53	.79	.59	.21	1.26	.08
2	208	♀	20.0	12/18/63	10	.50	.52	.89	.18	.73	4.38	.22
					10	.48	.48	.75	.27	.48	2.88	.14
					10	.46	.46	.77	.17	.60	3.60	.18
1	213	♂	13.5	12/19/63	10	.58	.59	.77	.29	.49	2.94	.22
					10	.60	.62	.77	.22	.57	3.42	.25
					10	.57	.54	.69	.21	.45	2.70	.20



## Lizard Source - Outdoor cage

35°C

Jar	Lizard		Weight (gms)	Date	Time (min)	Blank		Manometer			Total O <sub>2</sub> /hr	O <sub>2</sub> (cc/gm/hr)
	No.	Sex				start	stop	start	stop	corrected		
4	88	♀	24.3	12/18/63	10	.50	.52	.61	.12	.51	3.06	.12
					10	.48	.48	.82	.43	.39	2.34	.10
					10	.46	.46	.74	.41	.33	1.98	.08
3	123	♀	21.0	12/19/63	10	.58	.59	.85	.19	.67	4.02	.19
					5	.60	.61	.60	.18	.43	5.16	.24
					5	.57	.60	.63	.14	.52	6.24	.30
4	63	♂	15.3	12/19/63	10	.58	.59	.87	.46	.42	2.52	.16
					10	.60	.62	.73	.29	.46	2.76	.18
					10	.57	.54	.81	.38	.40	2.40	.16
5	72	♀	16.2	12/19/63	10	.58	.59	.82	.53	.30	1.80	.11
					10	.60	.62	.76	.46	.32	1.92	.12
					10	.57	.54	.90	.55	.32	1.92	.12
2	92	♀	12.7	12/19/63	4	.58	.58	.72	.03	.69	10.35	—
					10	.60	.62	.76	.18	.60	3.60	.28
					10	.57	.54	.77	.36	.38	2.28	.18
					5	.59	.59	.90	.35	.55	6.60	.52
7	16	♂	16.5	12/19/63	10	.58	.59	.67	.51	.17	1.02	.06
					10	.60	.62	.70	.45	.27	1.62	.10
					10	.57	.54	.62	.25	.34	2.04	.12
2	16	♂	16.5	12/20/63	10	.55	.49	.91	.91	—	—	—
					10	.49	.50	.87	.87	—	—	—
					10	.48	.50	.89	.89	—	—	—
4	203+1	♂	13.8	12/20/63	10	.55	.49	.85	.52	.27	1.62	.12
					10	.49	.50	.92	.60	.33	1.98	.14
					10	.48	.58	.57	.36	.31	1.86	.13



## PHRYNOCEPHALUS MCALLEN

15°C

Jar	Lizard* No.	Sex	Weight (gms.)	Date	Time (min.)	Blank		Manometer		Total O <sub>2</sub> /hr	O <sub>2</sub> (cc/gm/hr)
						start	stop	start	stop corrected		
5	128		12.1	4/16/64	20	58	45	76	42 .21	.63	.05
					" 20	43	37	74	63 .05	.15	.01
					" 20	37	33	59	46 .09	.27	.02
1	129		8.5	"	20	58	45	90	60 .17	.51	.06
					" 20	43	37	96	85 .05	.15	.02
					" 20	37	33	82	70 .08	.24	.03
3	73		16.0	"	15	58	47	101	0		
					" 9	43	40	78	24		
					" 10	37	35	80	16		
4	77		12.4	"	13	58	48	72	5		
					" 10	43	40	67	10		
					" 18	37	33	89	7		
8	201+5		12.2	"	20	58	45	80	83		
					" 20	43	37	79	82		
					" 20	37	33	81	81		
6	47		14.7	"	20	58	45	90	63		
					" 20	43	37	89	65		
					" 20	37	33	61	45		
2	66		12.3	"	20	58	45	84	61		
					" 20	43	37	86	73		
					" 20	37	33	71	63		
7	62		12.9	"	18	58	46	89	4		
					" 20	43	37	82	24		
					" 20	37	33	79	53		

\* #128 - Caught in field, 4/11/64

201+5 - same as #73 + 77.

129 - " " " 4/11/64

47 - Held since 10/16/63 at 15°C, no light.

{ 73 - Spent winter in outdoor cages;

66 - " " " " "

{ 77 - emerged from hibernation mid-March.

62 - " " " " "



## PHRYNOSOMA MITTERR

25°C

<u>Jar</u>	<u>Lizard*</u>	<u>No.</u>	<u>Sex</u>	<u>Weight</u> <u>(gms.)</u>	<u>Date</u>	<u>Time</u> <u>(min.)</u>	<u>Blank</u>	<u>Manometer</u>	<u>Total</u>	<u>O<sub>2</sub></u> <u>O<sub>2</sub>/hr (cc/gm/hr)</u>
5	128	12.1	4/16/64	20	59	57	88	52	.34	1.02 .08
					"	20	56	58	80	50 .32 .96 .08
					"	20	59	63	85	57 .32 .96 .08
1	129	8.5	..	20	59	57	88	73	.13	.39 .05
					"	20	56	58	71	52 .21 .63 .07
					"	20	59	63	86	60 .30 .90 .11
3	73	16.0	..	3	59	59	59	38		
					"	7	56	58	67	5
					"	6 1/2	59	59	84	0
4	77	12.4	"	12	59	62	83	24		
					"	13	56	57	76	4
					"	19	59	62	70	0
8	201+5	12.2	..	13	59	62	74	0		
					"	6	59	59	71	23
					"	—	—	—	—	—
6	47	14.7	"	12	59	62	89	32		
					"	20	56	58	87	87
					"	20	59	63	90	30
2	66	12.3	..	20	56	58	86	28		
					"	20	59	63	85	56
					"	—	—	—	—	—
7	62	12.9	..	20	59	57	80	41		
					"	20	56	58	76	40
					"	20	59	63	76	54

\*#128-Caught in field, 4/11/64

201+5-same as #73+77.

129- .. .. .. ..

47-Held since 10/16/63 at 15°C, no light

73} spent winter in outdoor cages;

66- .. .. .. .. .. ..

77} emerged from hibernation: mid-March

62- .. .. .. .. .. ..



35°C

Jar	Lizard*		Weight (gms.)	Date	Time (min.)	Blank		Manometer			Total O <sub>2</sub> /hr. (cc/gm/hr)	O <sub>2</sub> 0.36	
	No.	Sex				start	stop	start	stop	corrected			
5	128		12.1	4/16/64	5	42	23	75	19	.37	4.44	.36	
					"	5	49	34	85	52	.18	2.16	.18
					"	5	57	42	73	30	.28	3.36	.28
1	129		8.5		5	42	23	74	21	.34	4.08	.48	
					"	5	49	34	67	40	.12	1.44	.17
					"	5	57	42	84	49	.20	2.40	.28
3	73		16.0		4	42	32	62	7				
					"	9	49	25	95	41			
					"	3	57	48	54	3			
4	77		12.4		5	42	23	77	12				
					"	5	49	34	78	55			
					"	5	57	42	72	43			
8	201+5		12.2		2	42	39	42	0				
					"	5	49	34	76	0			
					"	5	57	42	73	23			
6	47		14.7		5	42	23	59	17				
					"	5	49	34	82	64			
					"	5	57	42	81	50			
2	66		12.3		5	42	23	70	42				
					"	5	49	34	75	44			
					"	5	57	42	86	72			
7	62		12.9		5	42	23	77	50				
					"	5	49	34	68	37			
					"	5	57	42	87	66			

\*) #128-Caught in field, 4/11/64

201+5-same as #73 + 77.

129- .. .. .. ..

47-Held since 10/16/63 at 15°C, no light.

73} spent winter in outdoor cages;  
77} emerged from hibernation: mid-March

66- .. .. .. .. .. ..

62- .. .. .. .. .. ..



## PHRYNOSOMA M'CALLI

Lizard Source - Field20°C

<u>Jar</u>	<u>Lizard No.</u>	<u>Weight (gms.)</u>	<u>Date</u>	<u>Time (min.)</u>	<u>Blank</u>		<u>Manometer</u>			<u>Total O<sub>2</sub> O<sub>2</sub>/hr.</u>	<u>O<sub>2</sub> (cc/gm/hr)</u>
					<u>start</u>	<u>stop</u>	<u>start</u>	<u>stop</u>	<u>corrected</u>		
1	8	19.1	6/9/64	15	.48	.66	.77	.76	.19	.76	.04
				"	.7	.60	.31	.76	.52	-	-
				"	10	.56	.73	.76	.77	.18	1.08 .06
2	15	15.7		15	.48	.66	.82	.80	.20	.80	.05
				"	.7	.60	.31	.80	.48	.20	1.72 .11
				"	10	.56	.73	.74	.71	.20	1.20 .08
3	3	19.2		15	.48	.66	.81	.79	.20	.80	.04
				"	.7	.60	.31	.79	.45	.05	.43 .02
				"	10	.56	.73	.74	.70	.21	1.26 .06
4	7	16.2		15	.48	.66	.75	.07	.86	3.44	.21
				"	.7	.60	.31	.79	.41	.09	.77 .05
				"	10	.56	.73	.75	.74	.18	1.08 .07
5	12	16.0		15	.48	.66	.86	.68	.36	1.44	.09
				"	.7	.60	.31	.70	.03	.38	3.27 .20
				"	10	.56	.73	.62	.05	.74	4.44 .28
6	4	16.6		15	.48	.66	.80	.81	.19	.76	.04
				"	.7	.60	.31	.78	.66	-	-
				"	10	.56	.73	.79	.81	.19	1.14 .07
1	9	11.6	6/10/64	15	.44	.29	.78	.54	.09	.36	.03
				"	15	.45	.65	.76	.69	.27	1.08 .09
				"	15	.65	.53	.79	.66	-	-
2	5	12.2		15	.44	.29	.73	.54	.04	.16	.01
				"	15	.45	.65	.70	.69	.21	.84 .07
				"	15	.65	.53	.76	.36	.28	1.12 .09
3	16	16.9		15	.44	.29	.83	.33	.35	1.40	.08
				"	15	.45	.65	.71	.48	.43	1.72 .10
				"	6	.65	.47	.72	.18	.36	3.60 .21
4	11	14.0		15	.44	.29	.89	.77	-	-	-
				"	15	.45	.65	.68	.48	.40	1.60 .11
				"	15	.65	.53	.73	.48	.13	.52 .04
3				"	6	.64	.53	.76	.46	.19	1.90 .11



## PHRYNOSOMA M'CALLI

Lizard Source - Field20°C

Lizard Jar No.	Sex	Weight (gms.)	Date	Time (min.)	Blank		Manometer		Total O <sub>2</sub> O <sub>2</sub> /hr. (cc/gm/hr)
					start	stop	start	stop	
5 14	♂	17.2	6/10/64	15	.44	.29	.79	.70	- - -
		"		15	.45	.65	.71	.69	.22 .88 .05
		"		15	.65	.53	.69	.43	.14 .56 .03
6 2	♂	11.1	"	15	.44	.29	.81	.66	- - -
		"		15	.45	.65	.71	.75	.24 .96 .09
		"		15	.65	.53	.73	.45	.16 .64 .06



## PHRYNOSOMA M'CALLI

Lizard Source - Field30°C

Jar	Lizard			Weight (gms.)	Date	Time (min.)	Blank		Manometer			Total O <sub>2</sub> O <sub>2</sub> /hr. (cc/gm/hr)	O <sub>2</sub> .29
	No.	sex	Date				start	stop	start	stop	corrected		
1	8	♂	19.1	6/9/64	5	.50	.47	.79	.30	.46	5.52	.19	
					..	10	.49	.49	.83	.22	.61	3.66	
					..	10	.53	.54	.76	.30	.47	2.82	
2	15	♂	15.7	..	10	.50	.49	.77	.55	.21	1.26	.08	
					..	10	.49	.49	.76	.58	.18	1.08	
					..	10	.53	.54	.76	.63	.14	.84	
3	3	♂	19.2	"	5	.50	.47	.76	.17	.56	6.72	.35	
					..	10	.49	.49	.76	.30	.46	2.76	
					..	10	.53	.54	.73	.71	.03	.18	
4	7	♂	16.2	..	10	.50	.49	.83	.50	.32	1.92	.12	
					..	10	.49	.49	.77	.33	.44	2.64	
					..	10	.53	.54	.76	.75	.02	.12	
5	12	♂	16.0	..	10	.50	.49	.79	.50	.28	1.68	10.0	
					..	10	.49	.49	.85	.82	.03	.18	
					..	10	.53	.54	.84	.03	.82	4.92	
6	4	♀	16.6	..	10	.50	.49	.74	.71	.02	.12	.01	
					..	5	.49	.49	.71	.19	.52	6.24	
					..	10	.53	.54	.79	.72	.08	.48	
1	9	♂	11.6	6/10/64	10	.53	.53	.74	.58	.16	.96	.08	
					..	10	.53	.53	.81	.79	.02	.12	
					..	10	.54	.57	.79	.57	.25	1.50	
2	5	♂	12.2	..	10	.53	.53	.75	.39	.36	2.16	.18	
					..	10	.53	.53	.70	.57	.13	.78	
					..	6	.54	.55	.81	.09	.73	7.30	
3	16	♂	16.9	..	—	—	—	—	—	—	—	—	.13
					..	10	.53	.53	.79	.32	.47	2.82	
					..	10	.54	.57	.90	.34	.59	3.54	
4	11	♂	14.0	..	7	.53	.53	.70	.11	.59	5.07	.36	
					..	8	.53	.53	.82	.04	.78	5.85	
					..	10	.54	.57	.86	.09	.80	4.80	



Lizard Source—Field30°C

<u>Jar</u>	<u>Lizard No.</u>	<u>Sex</u>	<u>Weight (gms.)</u>	<u>Date</u>	<u>Time (min.)</u>	<u>Blank</u>		<u>Manometer</u>			<u>Total O<sub>2</sub>/hr. (cc/gm/hr)</u>	<u>O<sub>2</sub></u>
						<u>start</u>	<u>stop</u>	<u>start</u>	<u>stop</u>	<u>corrected</u>		
5	14	♂	17.2	6/10/64	4	.53	.53	.59	.02	.57	8.55	.50
					"	.53	.53	.83	.17	.66	4.95	.29
					"	.54	.57	.88	.57	.34	2.04	.12
					"	.53	.53	.58	.25	.33	1.98	.18
6	2	♂	11.1	..	10	.53	.53	.87	.86	.01	.06	—
					"	.53	.53	.83	.42	.44	2.64	.24
					"	.54	.57	.78	.03	.75	11.25	.65
					"	.53	.53					



Lizard Source-Field40°C

Jar	Lizard No.	Sex	Weight (gms.)	Date	Time (min.)	Blank		Manometer		Total O <sub>2</sub> 0 <sub>2</sub> / hr. (cc/gm/hr)
						start	stop	start	stop	
1	8	♂	19.1	6/8/64	5	.55	.49	.70	.15	.49 5.88 -31
					"	.5	.48 .55	.79	.52	.34 4.08 .21
					"	.5	.55 .56	.68	.47	.22 2.64 .14
2	15	♂	15.7		5	.55	.49	.77	.42	.29 3.48 .22
					"	.5	.48 .55	.77	.53	.31 3.72 .24
					"	.5	.55 .56	.75	.45	.31 3.72 .24
3	3	♂	19.2		5	.55	.49	.83	.56	.21 2.52 .13
					"	.5	.48 .55	.80	.49	.38 4.56 .24
					"	.5	.55 .56	.72	.61	.12 1.44 .08
4	7	♂	16.2		5	.55	.49	.79	.78	- - -
					"	.5	.48 .55	.78	.78	.07 .84 .05
					"	.5	.55 .56	.82	.78	.05 .60 .04
5	12	♂	16.0		5	.55	.49	.77	.73	- - -
					"	.5	.48 .55	.73	.32	.48 5.76 .36
					"	.5	.55 .56	.76	.38	.39 4.68 .29
6	4	♀	16.6		5	.55	.49	.82	.66	.10 1.20 .07
					"	.5	.48 .55	.76	.38	.45 5.40 .32
					"	.5	.55 .56	.65	.35	.31 3.72 .22
1	9	♂	11.6	6/10/64	5	.47	.49	.81	.59	.24 2.88 .25
					"	6	.49 .50	.83	.62	.22 2.20 .19
					"	6	.50 .49	.79	.57	.21 2.10 .18
2	5	♂	12.2		5	.47	.49	.80	.64	.18 2.16 .18
					"	6	.49 .50	.88	.65	.24 2.40 .20
					"	6	.50 .49	.84	.64	.19 1.90 .16
3	16	♂	16.9		5	.47	.49	.79	.31	.50 6.00 .36
					"	6	.49 .50	.85	.84	.02 .20 .01
					"	3	.50 .49	.68	.17	.50 10.0 .59
4	11	♂	14.0		5	.47	.49	.82	.29	.55 6.6 .47
					"	4.5	.49 .50	.67	.00	.68 9.06 .65
					"	6	.50 .49	.82	.02	.79 7.90 .56

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Lizard Source-Field40°C

Jar	Lizard No.	Sex	Weight (gms.)	Date	Time (min.)	Blank		Manometer		Total O <sub>2</sub> O <sub>2</sub> /hr. (cc/gm/hr)	
						start	stop	start	stop		
5	14	♂	17.2	6/10/64	5	.47	.49	.80	.60	.22	2.64 .15
	"		"	"	6	.49	.50	.81	.57	.25	2.50 .14
	"		"	"	6	.50	.49	.86	.59	.26	2.60 .15
6	2	♂	11.1	"	5	.48	.49	.83	.47	.37	4.44 .40
	"		"	"	3	.49	.50	.54	.00	.55	11.0 .99
	"		"	"	3	.50	.49	.89	.15	.73	14.6 1.32



## PHRYNOSOMA M'CALLI

## FIELD ANIMALS

TEMPERATURE - 45°C.

JAR	LIZARD No.	WT. (GMS.)	DATE	TIME (MIN)	BLANK		MANOMETER		TOTAL CORRECTED O <sub>2</sub> /HR. (cc/gm/hr)	O <sub>2</sub> O <sub>2</sub> /HR. (cc/gm/hr)
					START	STOP	START	STOP		
1	216	13.6	8/64	1	.42	.42	.97	.20	.77	46.20 3.40
				1	.42	.42	.91	.66	.25	15.00 1.10
				1/2	.43	.43	.96	.25	.71	85.20 6.26
				1/3	.43	.43	.88	.15	.73	131.40 9.66
				2/3	.43	.43	.97	.16	.81	72.90 5.36
				1	.44	.44	.95	.21	.74	44.40 3.26
				1	.44	.44	.88	.12	.76	45.60 3.35
				1	.45	.45	.88	.84	<del>.04</del>	2.40 0.18
				1	.45	.46	.84	.70	.15	9.00 0.66
				1	.46	.46	.70	.25	.45	27.00 1.98
				1/2	.48	.48	.86	.30	.56	67.20 4.94
2	217	14.9	8/64	1	.46	.46	.88	.40	.48	28.80 1.93
				1/2	.46	.46	.88	.21	.67	80.40 5.40
				1	.46	.47	.87	.21	.67	40.20 2.70
				1	.47	.47	.88	.56	.32	19.20 1.29
				1	.48	.48	.86	.41	.45	27.00 1.81
				1/2	.48	.48	.80	.08	.72	28.80 1.93
				1	.48	.48	.85	.40	.45	27.00 1.81
				2/3	.48	.48	.89	.16	.73	65.70 4.41
				1	.48	.48	.85	.32	.53	31.80 2.13
				3	.48	.48	.87	.26	.61	12.20 0.82
				1	.48	.48	.86	.53	.33	19.80 1.33
1	219	16.5	9/64	1 1/2	.40	.40	.93	.14	.79	31.60 1.92
				2	.40	.40	.93	.26	.67	20.10 1.22
				1/2	.38	.38	.65	.45	.20	24.00 1.45
				1/2	.38	.38	.65	.31	.34	40.80 2.47



## PHRYNOSOMA MCALLI

## FIELD ANIMALS

TEMPERATURE - 45°C.

JAR	LIZARD No.	WT. (GMS)	SEX	DATE	TIME (MIN)	BLANK	MANOMETER		TOTAL OZ Oz/Hr. (cc/gm) hr)
							START	STOP	
1	219 (CONT.)				1	.38	.38	.74	.49 .25 15.00 0.91
					1/2	.38	.38	.65	.35 .30 36.00 2.18
					1/2	.38	.38	.70	.63 .07 4.20 0.25
					1/2	.38	.38	.70	.44 .26 31.20 1.89
					1	.38	.38	.71	.30 .41 24.60 1.49
					1	.38	.38	.74	.34 .40 24.00 1.45
					1/2	.38	.38	.76	.42 .34 20.24 1.23
					2	.38	.38	.74	.65 .09 2.70 0.16
					1/2	.38	.38	.75	.00 .75 90.00 5.45
2	218	9	14.6	8/64	2	.40	.40	.77	.36 .41 12.30 0.84
					4 1/2	.40	.40	.75	.19 .56 7.45 0.51
					3	.40	.40	.79	.41 .38 7.60 0.52
					5	.40	.39	.82	.24 .57 6.84 0.47
					2	.39	.39	.76	.44 .32 9.60 0.66
					2	.39	.39	.82	.66 .16 4.80 0.33
					2	.39	.39	.78	.54 .24 7.20 0.49
					2	.39	.39	.77	.55 .22 6.60 0.45
					2	.39	.39	.75	.58 .17 5.10 0.35
					4	.39	.38	.78	.62 .15 2.25 0.15
					3	.38	.38	.75	.22 .53 10.60 0.72
					3	.38	.38	.76	.51 .25 5.00 0.34
					2	.38	.38	.74	.36 .38 11.40 0.78
1	220	9	21.3	10/64	2 1/2	.67	.67	.68	.42 .16 6.24 0.29
					2	.67	.67	.70	.11 .59 11.70 0.83
					1 1/2	.67	.71	.65	.43 .26 10.40 0.49
					2 1/2	.72	.76	.68	.48 .24 5.76 0.47
					1	.76	.76	.76	.58 .18 10.80 0.51
					2	.76	.77	.78	.33 .46 13.80 0.65
					1	.77	.78	.47	.59 .09 5.40 0.25
					2	.78	.79	.65	.46 .20 6.00 0.28



## PHRYNOSOMA M'CALLI

## Field Animals

Temperature = 40° F.

Tag No.	Lizard	Sex	Wt (gms)	Date	TIME (min)	SLEEVING	THERMOMETER			C. F.	F. F.
							start	stop	start	stop	
1	220 (cont.)				1 1/2	.79	.82	.68	.24	.40	10.1
					2	.81	.81	.66	.77	.69	10.1
2	9	♂	9.6	10/64	3 1/2	.43	.43	.32	.14	.63	16.3
					3	.49	.49	.32	.15	.67	17.4
					1 1/2	.557	.577	.69	.20	.57	16.6
					3	.57	.57	.28	.87	.74	16.3
					1 1/2	.57	.59	.27	.37	.32	16.3
					1 1/2	.62	.65	.68	.00	.65	17.4
					2	.65	.66	.61	.14	.54	16.2
					3/4	.66	.66	.63	.12	.53	16.4
					2	.66	.66	.63	.00	.68	16.4
					2	.66	.66	.63	.88	.16	3.00



Phrynosoma m'calli

45°C - Field animals - Summary

Lizard No.	<u><math>\bar{x}</math>-4 lowest measure.</u>	<u><math>\bar{x}</math>-4 highest measure.</u>	<u><math>\bar{x}</math>-all measure.</u>	<u>N(all measure)</u>
216	0.58	6.55	3.36	13
217	1.17	3.66	2.16	13
218	0.29	0.75	0.51	13
219	0.63	3.00	1.69	13
220	0.27	0.68	0.46	10
9	0.89	4.90	2.63	10
$\bar{x}$	0.64	3.26	1.80	72



## PHYSICOLOGICAL METHODS

6 hours light/day

35°C

Jar	Lizard No.	Sex	Weight (gms)	Date	Time (min)	Blank		Manometer			Total O <sub>2</sub> /hr. (cc/gm/hr.)	O <sub>2</sub> %	
						start	stop	start	stop	corrected			
1	11	(Active)	♂	11.7	12/15/64	10	.46	.51	.80	.01	.84	5.04	0.43
					"	10	.51	.51	.78	.01	.77	4.62	0.39
					"	10	.52	.54	.80	.23	.59	3.54	0.30
					"	10	.54	.57	.80	.14	.69	4.14	0.35
					"	11	.58	.63	.88	.35	.58	3.16	0.27
					"	10	.63	.68	.87	.63	.29	1.74	0.15
					"	10	.46	.47	.91	.97	—	—	—
2	13	(Active)	♀	9.1	"	10	.47	.47	.97	.95	—	—	—
					"	10	.47	.48	.94	.83	.12	0.72	0.08
					"	10	.48	.48	.83	.45	.38	2.28	0.25
					"	10	.48	.48	.79	.78	.01	0.06	0.01
					"	10	.48	.48	.78	.59	.19	1.14	0.12
					"	10	.47	.49	.80	.78	.04	0.24	0.03
					"	10	.49	.51	.76	.47	.31	1.86	0.20
3	14	(Active)	♂	9.1	"	10	.52	.53	.42	.11	.32	1.92	0.21
					"	10	.53	.60	.78	.78	.07	0.42	0.05
					"	10	.60	.70	.78	.75	.13	0.78	0.08
					"	12	.71	.80	.74	.37	.46	2.30	0.25
					"	10	.46	.51	.70	.44	.31	1.86	0.21
					"	10	.51	.51	.75	.44	.31	1.86	0.21
					"	10	.52	.54	.84	.81	.05	0.30	0.03
5	4	(Active)	♀	8.7	"	10	.54	.57	.80	.79	.04	0.24	0.03
					"	11	.58	.63	.79	.33	.51	2.78	0.32
					"	10	.63	.68	.71	.54	.22	1.32	0.15
					"	8	.46	.51	.78	.13	.70	5.25	0.42
					"	10	.51	.51	.81	.05	.76	4.56	0.36
					"	6	.52	.54	.85	.08	.79	7.90	0.63
					"	10	.54	.57	.83	.13	.73	4.38	0.35
6	1	(Active)	♀	12.5	"	11	.58	.63	.80	.04	.81	4.41	0.35
					"	10	.63	.68	.86	.02	.87	5.34	0.43



6 hours light/day35°C

<u>Jar</u>	<u>Lizard No.</u>	<u>Weight (gms)</u>	<u>Date</u>	<u>Time (min)</u>	<u>Blank</u>		<u>Manometer</u>			<u>Total O<sub>2</sub>/hr</u>	<u>O<sub>2</sub> (cc/gm/hr)</u>
					<u>start</u>	<u>stop</u>	<u>start</u>	<u>stop</u>	<u>corrected</u>		
8	8	♂	10.6	12/15/64	10	.46	.47	.80	.71	.10	0.60
	"	"	"	"	.47	.47	.69	.03	.66	3.96	0.37
	"	"	"	"	.47	.48	.79	.36	.44	2.64	0.25
	"	"	"	"	.48	.48	.85	.20	.65	3.90	0.37
	"	"	"	"	.48	.48	.78	.56	.22	1.32	0.12
	"	"	"	"	.48	.48	.82	.46	.36	2.16	0.20



15 hours light/day35°C

Jar	Lizard		Weight (gms)	Date	Time (min)	Blank		Manometer		Total O <sub>2</sub> /hr.	O <sub>2</sub> (cc/gm/hr)
	No.	Sex				start	stop	start	stop		
3	7	♂	15.1	12/15/64	10	.47	.49	.76	.12	.66	3.96 0.26
		"			10	.49	.51	.71	.33	.40	2.40 0.16
		"			10	.52	.53	.66	.36	.31	1.86 0.12
		"			10	.53	.60	.70	.64	.13	0.78 0.05
		"			10	.60	.70	.60	.09	.61	3.66 0.24
		"			12	.71	.80	.74	.64	.19	0.95 0.06
7	2	♂	10.6	"	10	.46	.47	.85	.10	.76	4.56 0.43
		"			10	.47	.47	.77	.53	.24	1.44 0.14
		"			10	.47	.48	.73	.53	.21	1.26 0.12
		"			10	.48	.48	.85	.84	.01	0.06 0.01
		"			10	.48	.48	.85	.54	.31	1.86 0.18
		"			10	.48	.48	.75	.59	.16	0.96 0.09



STP

STP

To convert O<sub>2</sub> volumes measured to standard conditions (0°C and 76 cm Hg. pressure) (It will be labelled STP on forms):

$$\frac{P_{\text{final}} \times V_{\text{final}}}{T_{\text{final}}} = \frac{P_{\text{initial}} \times V_{\text{initial}}}{T_{\text{initial}}}$$

$$V_{\text{final}} = V_{\text{initial}} \times \left( \frac{P_{\text{initial}}}{P_{\text{final}}} \right) \times \left( \frac{T_{\text{final}}}{T_{\text{initial}}} \right)$$

Example: What is volume of gas at standard conditions (0°C., 76 cm. Hg.) that has a volume of 180 cc at 40°C and a pressure of 80 cm Hg.? (0°C = 273°K)

$$V_{\text{final}} = 180 \text{ cc} \times \left( \frac{80 \text{ cm. Hg.}}{76 \text{ cm. Hg.}} \right) \times \left( \frac{273^{\circ}\text{K}}{313^{\circ}\text{K}} \right)$$

$$V_{\text{final}} = 180 \text{ cc} \times 1.05 \times .87$$

$$V_{\text{final}} = 165 \text{ cc. STP}$$

$$V_{\text{final}} = \frac{x \text{ cc}}{x \text{ cc}} \times \frac{.96}{.91} \left[ \frac{73 \text{ cm Hg}}{76 \text{ cm Hg}} \right] \times .95 \left[ \frac{273^{\circ}\text{K}}{288^{\circ}\text{K}} \right] \text{ at } 15^{\circ}\text{C.}$$

$$V_{\text{final}} = \frac{x \text{ cc}}{x \text{ cc}} \times .96 \times .92 \left[ \frac{273^{\circ}\text{K}}{298^{\circ}\text{K}} \right] \text{ at } 25^{\circ}\text{C.}$$

$$V_{\text{final}} = \frac{x \text{ cc}}{x \text{ cc}} \times .96 \times .89 \left[ \frac{273^{\circ}\text{K}}{308^{\circ}\text{K}} \right] \text{ at } 35^{\circ}\text{C.}$$



$$V_{\text{final}} = X_{\text{cc}} \times .96 [ .93 ] \left( \frac{273^{\circ}\text{K}}{293^{\circ}\text{K}} \right) \text{ at } 20^{\circ}\text{C}$$

$$= X_{\text{cc}} \times .89$$

$$V_{\text{final}} = X_{\text{cc}} \times .96 [ .90 ] \left[ \frac{273^{\circ}\text{K}}{303^{\circ}\text{K}} \right] \text{ at } 30^{\circ}\text{C}$$

$$= X_{\text{cc}} \times .86$$

$$V_{\text{final}} = X_{\text{cc}} \times .96 [ .87 ] \left[ \frac{273^{\circ}\text{K}}{313^{\circ}\text{K}} \right] \text{ at } 40^{\circ}\text{C}$$

$$= X_{\text{cc}} \times .83$$

$$V_{\text{final}} = X_{\text{cc}} \times .96 [ .86 ] \left[ \frac{273^{\circ}\text{K}}{318^{\circ}\text{K}} \right] \text{ at } 45^{\circ}\text{C}$$

$$X_{\text{cc}} \times .82$$



## PHRYNOSOMA McCALLI

Field15°

Lizard

<u>No.</u>	<u>Sex</u>	<u>Weight</u>	<u>Date</u>	<u>No.</u>	<u><math>\bar{x}</math></u>	<u>STP <math>x</math></u>	<u>STP <math>x^2</math></u>
2	♂	12.7	8-63	5	.10	.09	.01
3	♀	11.5	"	5	.10	.09	.01
120	♂	12.0	"	3	.03	.03	.00
122	♂	15.6	"	4	.11	.10	.01
124	♀	15.3	"	2	.03	.03	.00
121	♂	10.3	"	2	.03	.03	.00
125	♀	12.6	"	3	.04	.04	.00
119	♀	14.4	"	3	.04	.02	.00
118	♀	18.3	"	2	.04	.04	.00
123	♀	20.0	"	4	.10	.09	.01
124		12.1	"	5	.10	.09	.01
		8.5	"	5	.10	.09	.01

$$N = 37 \quad 10 \quad 10$$

$$\sum x = 0.56$$

$$\sum x^2 = 0.04$$

$$\bar{x} = 0.06$$

$$\bar{x}^2 = 0.01$$

$$\text{Range: } .02 - .10$$

$$s^2 = \frac{0.04 - 10(0.01)}{9} = \frac{0.06}{9} = 0.006$$

$$SE = \sqrt{\frac{0.006}{10}} = \sqrt{0.0006} = .02$$

(.15)  
.02)



## PHRYNOSOMA M'CALLI

15°C.

Outdoor cageO<sub>2</sub> (cc/gm/hr)

Lizard No.	Sex	Weight	Date	No.	$\bar{x}$	STP $x$	STP $x^2$
110	f	18.7	8-63	2	.12	.11	.01
200+109	f	15.0	"	4	.07	.06	.00
103	♂	16.2	"	4	.08	.07	.00
287	f	14.8	"	4	.17	.15	.02
51	f	17.6	"	3	.07	.06	.00
97	f	20.0	-	6	.09	.08	.01
299	♂	14.3	"	2	.05	.05	.00
101	♂	17.4	"	3	.03	.03	.00
117	♂	16.4	"	3	.02	.02	.00
105	♂	12.1	"	3	.05	.05	.00
				—	—	—	—

$$N = 34 \quad 10 \quad 10$$

$$\sum x = 0.68$$

$$\sum x^2 = 0.04$$

$$\bar{x} = .07$$

$$\bar{x}^2 = .01$$

$$\text{Range: } .02 - .15$$

$$s^2 = \frac{.04 - 10(.01)}{9} = \frac{.06}{9} = .006$$

$$SE = \sqrt{\frac{.006}{10}} = \sqrt{.0006} = .02$$

$$\begin{pmatrix} .11 \\ .03 \end{pmatrix}$$



## PHRYNOSOMA M'CALLI

Cold room15°C

Lizard

No.	Sex	Weight	Date	<u>O<sub>2</sub> (cc/gm/hr)</u>			
				No.	<u><math>\bar{X}</math></u>	<u><math>S_{TP}</math></u>	<u><math>S_{TP}</math></u>
103	♂	14.1	9-63	4	.08	.07	.01
105	♂	10.3	"	4	.15	.14	.02
110	♀	16.7	"	4	.06	.05	.002
97	♀	20.0	"	4	.11	.10	.01
299	♂	12.6	"	3	.04	.04	.002
117	♂	14.1	"	4	.07	.06	.004
287	♀	13.5	"	4	.04	.04	.002
200+109	♀	13.2	"	4	.15	.14	.02
86	♀	16.2	"	4	.02	.02	.000
101	♂	15.3	"	4	.05	.05	.003
				—	—	—	—

$$N = 39 \quad 10 \quad 10$$

$$\Sigma X = 0.71$$

$$\Sigma X^2 = 0.073$$

$$\bar{X} = .07$$

$$\bar{X}^2 = .01$$

$$\text{Range: } .02 - .14$$

$$S^2 = \frac{.073 - 10(.01)}{9} = \frac{.027}{9} = .003$$

$$SE = \sqrt{\frac{.003}{10}} = \sqrt{.0003} = .017$$

4

$$\begin{pmatrix} .10 \\ .04 \end{pmatrix}$$



## PHRYNOSOMA MCGREGORI

15°C cage (dark)15°C

Lizard

<u>No.</u>	<u>Sex</u>	<u>Weight</u>	<u>Date</u>
85	♀	20.1	12/63
45	♂	9.4	"
86	♀	19.8	"
103+20+30	♂	17.3	"
200+109	♂	14.6	"

<u>O<sub>2</sub> (cc/gm/hr)</u>			
<u>No.</u>	<u><math>\bar{X}</math></u>	<u>STP <math>\bar{X}</math></u>	<u>STP <math>X^2</math></u>
3	.01	.01	.00
3	.09	.08	.01
3	.07	.06	.00
3	.01	.01	.00
4	.06	.05	.00



15°C cage (7 hrs. light)15°C

Lizard No.	Sex	Weight	Date	No.	$\bar{x}$	STP $\bar{x}$	STP $\bar{x}^2$
81	♂	16.3	12/63	3	.01	.01	.00
299	♂	14.0	"	3	.11	.10	.01
67	♀	17.0	"	4	.14	.13	.02
54	♂	13.5	"	3	.12	.11	.01
71	♂	20.3	"	4	.14	.13	.02
41	♀	17.1	"	3	.01	.01	.00



15°C cage (combined)15°C

Lizard No.	Sex	Weight	Date	<u>O<sub>2</sub> (cc/gm/hr)</u>			
				No.	<u><math>\bar{X}</math></u>	<u>STP</u> <u>X</u>	<u>STP<sub>2</sub></u> <u>X</u>
85	♀	20.1	12/63	3	.01	.01	.00
45	♂	9.4	"	3	.09	.08	.01
86	♀	19.8	"	3	.07	.06	.00
103+20+30	♂	17.3	"	3	.01	.01	.00
200+109	♂	14.6	"	4	.06	.05	.00
81	♂	16.3	"	3	.01	.01	.00
299	♂	14.0	"	3	.11	.10	.01
67	♀	17.0	"	4	.14	.13	.02
54	♂	13.5	"	3	.12	.11	.01
71	♂	20.3	"	4	.14	.13	.02
41	♀	17.1	"	3	.01	.01	.00
				—	—	—	—

$$N = 36 \quad 11 \quad 11$$

$$\Sigma X = 0.70$$

$$\Sigma X^2 = 0.07$$

$$\bar{X} = 0.06$$

$$\bar{X}^2 = 0.01$$

$$\text{Range: } .01 - .13$$

$$S^2 = \frac{.07 - 11(0.01)}{10} = \frac{.04}{10} = .004$$

$$SE = \sqrt{\frac{.004}{11}} = \sqrt{.0004} = .02$$

$$\begin{pmatrix} .10 \\ .02 \end{pmatrix}$$



## PHYSIOLOGY OF LIZARDS

25°C cage15°C

Lizard

No.	Sex	Weight	Date	O <sub>2</sub> (cc/gm/hr)			
				No.	$\bar{X}$	$S_{TP}$	$S_{TP}$
297	♂	17.8	12/63	4	.13	.11	.01
97	♀	16.6	"	4	.10	.09	.01
39	♀	17.6	"	3	.03	.03	.00
102	♀	20.0	"	3	.02	.02	.00
37	♀	18.5	"	3	.01	.01	.00
108	♂	10.4	"	3	.01	.01	.00
87	♂	13.3	"	3	.02	.02	.00
64	♀	19.4	"	4	.01	.01	.00
29	♀	12.5	"	3	.01	.01	.00
23	♀	17.5	"	3	.01	.01	.00
292	♂	14.3	"	3	.03	.03	.00
				—	—	—	—

$$N = 36 \quad 11 \quad 11$$

$$\sum X = 0.35$$

$$\sum X^2 = 0.02$$

$$\bar{X} = 0.03$$

$$\bar{X}^2 = 0.01$$

$$\text{Range: } .01 - .11$$

$$S^2 = \frac{.02 - 11(.01)}{10} = \frac{.09}{10} = .009$$

$$SE = \sqrt{\frac{.009}{11}} = \sqrt{.0008} = .03$$

$$\begin{pmatrix} .09 \\ .00 \end{pmatrix}$$



35°C cage

O<sub>2</sub> (cc/gm/hr)

15°C

Lizard

No.	Sex	Weight	Date
40	♀	13.5	12/63
95	♀	12.8	"
17	♂	7.4	"
80	♀	10.0	"
117	♂	11.6	"
89	♂	10.2	"
15	♂	8.2	"
201+3	♂	9.3	"
114	♀	6.4	"
56	♂	8.2	"

No.	$\bar{X}$	STP $\bar{X}$	STP $\bar{X}^2$
3	.03	.03	.00
1	.03	.03	.00
3	.04	.04	.00
3	.06	.05	.00
3	.04	.04	.00
3	.18	.16	.03
3	.10	.09	.01
3	.14	.13	.02
2	.02	.02	.00
2	.02	.02	.00
—	—	—	—

$$N = 26 \quad 10 \quad 10$$

$$\Sigma X = 0.61$$

$$\Sigma X^2 = 0.06$$

$$\bar{X} = 0.06$$

$$\bar{X}^2 = 0.01$$

$$\text{Range: } .02 - .16$$

$$s^2 = \frac{.06 - 10(.01)}{9} = \frac{.04}{9} = .004$$

$$SE = \sqrt{\frac{.004}{10}} = \sqrt{.0004} = .02$$

$$\begin{pmatrix} .10 \\ .02 \end{pmatrix}$$



## PHRYNOSOMA NIGRICALLI

Outdoor cage15°C

Lizard No.	Sex	Weight	Date	<u>O<sub>2</sub> (cc/gm/hr)</u>			
				No.	<u>X̄</u>	<u>s<sub>TP</sub> X̄</u>	<u>s<sub>TP</sub> X̄<sup>2</sup></u>
121	♂	13.1	12/63	3	.02	.02	.00
122	♂	16.3	"	4	.15	.14	.02
116	♀	22.3	"	3	.05	.05	.00
208+100	♀	21.0	"	4	.08	.07	.00
69	♂	18.7	"	2	.02	.02	.00
106	♀	17.0	"	3	.07	.06	.00
93	♂	13.7	"	3	.04	.04	.00
49	♀	15.3	"	3	.07	.06	.00
208	♀	20.0	"	4	.11	.10	.01
88	♀	24.3	"	3	.07	.06	.00
213	♂	13.5	"	3	.08	.07	.00
63	♂	15.3	"	1	.10	.09	.01
123	♀	21.0	"	3	.03	.03	.00
72	♀	16.2	"	3	.06	.05	.00
92	♀	12.7	"	3	.14	.13	.02
16	♂	16.5	"	3	.06	.05	.00
203+1	♂	13.8	"	3	.14	.13	.02
				—	—	—	—

$$N = 51 \quad 17 \quad 17$$

$$\sum X = \frac{1.17}{11.70}$$

$$\sum X^2 = 0.08$$

$$\bar{X} = 0.07$$

$$\bar{X}^2 = 0.01$$

$$\text{Range: } .02 - .14$$

$$S^2 = \frac{.08 - 17(.01)}{16} = \frac{.09}{16} = .006$$

$$SE = \sqrt{\frac{.006}{17}} = \sqrt{.0004} = .02 \quad \left( \begin{array}{l} (.11 \\ .03) \end{array} \right)$$



## PHRYNOSOMA MCALLI

Cold room

25°

Lizard

No. Sex Weight Date

No.	Sex	Weight	Date	No.	C <sub>2</sub> (cm/cm/m)		
					STP	STP	STP
103	♂	14.1	9-6-5	+	.33	.29	.01
105	♂	10.3	"	+	.32	.28	.03
110	♀	16.7	"	+	.22	.26	.04
97	♀	20.0	"	+	.11	.11	.03
299	♂	12.6	"	+	.41	.41	.05
117	♂	14.1	"	+	.46	.25	.12
287	♀	13.5	"	+	.32	.26	.03
200+109	♀	13.2	"	+	.36	.32	.06
86	♀	16.2	"	+	.01	.06	.00
101	♂	15.3	"	+	.46	.43	.03
				-	-	-	-

$$N = 18 \quad 10 \quad 10$$

$$\Sigma X = 4.55$$

$$\Sigma X^2 = .74$$

$$\bar{X} = .26$$

$$\bar{X}^2 = .01$$

$$\text{Range:} \quad .17-4.2$$

$$S^2 = \frac{\Sigma X^2 - (\Sigma X)^2}{N} = \frac{.74 - 4.55^2}{18} = .007 \approx .007$$

$$SE = \sqrt{\frac{S^2}{N}} = \sqrt{\frac{.007}{18}} = .004$$

$$\begin{pmatrix} .007 \\ .004 \end{pmatrix}$$



## PHRYNOSOMA M'CALLI

Outdoor cage

250

C. L. (cm/m/m)

Lizard

No.	Sex	Weight	Date	No.	$\bar{x}$	$x^+$	$x^-$	TP	CP
110	♀	18.7	8-6-63	3	.16	.17	.02		
200+109	♀	15.1	"	2	.22	.25	.08		
103	♂	16.2	"	-	.17	.11	.01		
287	♀	14.8	"	-	.14	.18	.01		
97	♀	20.5	"	-	.21	.18	.02		
299	♂	14.3	"	1	.17	.12	.01		
101	♂	17.4	"	-	.18	.20	.01		
117	♂	16.4	"	-	.19	.20	.01		
105	♂	12.1	"	-	.21	.15	.02		

Mean = .175 ± .015

$$n = 12 - 4 = 8$$

$$\Sigma x = 1.36$$

$$\Sigma x^2 = 2.47$$

$$\bar{x} = .175$$

$$\bar{x}^2 = .025$$

Range: .01-.30

$$\sigma^2 = \frac{\Sigma x^2 - \bar{x}^2}{n-1} = \frac{2.47 - .175^2}{8-1} = .025$$

$$\sigma = \sqrt{\frac{\Sigma x^2 - \bar{x}^2}{n-1}} = \sqrt{.025} = .158$$

$$\begin{pmatrix} .20 \\ .15 \end{pmatrix}$$







## PRAIRIE LIZARD

15°C cage (dark)

Lizard

No.	Sex	Weight	Date
85	♀	20.1	12/63
45	♂	9.4	"
86	♀	19.8	"
103+20+30	♂	17.3	"
200+109	♂	14.6	"

25°CO<sub>2</sub> (cc/gm/hr)

No.	$\bar{X}$	STP $X$	STP $X^2$
3	.13	.11	.01
3	.06	.05	.00
3	.04	.04	.00
3	.07	.06	.00
2	.11	.10	.01



15°C cage (light)25°C

Lizard

<u>No.</u>	<u>Sex</u>	<u>Weight</u>	<u>Date</u>
81	♂	16.3	12/63
299	♂	14.0	"
67	♀	17.0	"
54	♂	13.5	"
71	♂	18.5	"
41	♀	17.1	"

<u>No.</u>	<u>O<sub>2</sub> (cc/gm/hr)</u>		
	<u>STP</u>	<u>STP</u>	<u>X<sup>2</sup></u>
3	.12	.11	.01
3	.08	.07	.01
3	.05	.04	.00
3	.19	.17	.03
3	.06	.05	.00
4	.17	.15	.02



15°C cage (combined)

Lizard

No.	Sex	Weight	Date
85	♀	20.1	12/63
45	♂	9.4	"
86	♀	19.8	"
103+20+30	♂	17.3	"
200+109	♂	14.6	"
81	♂	16.3	"
299	♂	14.0	"
67	♀	17.0	"
54	♂	13.5	"
71	♂	20.3	"
41	♀	17.1	"

No.	<u>O<sub>2</sub> (cc/gm/hr)</u>			
	<u>STP X</u>	<u>STP X<sup>2</sup></u>	<u>STP X</u>	<u>X<sup>2</sup></u>
3	.13	.11	.01	
3	.06	.05	.00	
3	.04	.04	.00	
3	.07	.06	.00	
2	.11	.10	.01	
3	.12	.11	.01	
3	.08	.07	.01	
3	.05	.04	.00	
3	.19	.17	.03	
3	.06	.05	.00	
4	.17	.15	.02	
—	—	—	—	—

$$N = 33 \quad 11 \quad 11$$

$$\Sigma X = 0.95$$

$$\Sigma X^2 = 0.09$$

$$\bar{X} = 0.09$$

$$\bar{X}^2 = 0.01$$

$$\text{Range: } .04 - .17$$

$$S^2 = \frac{.09 - 11(.01)}{10} = \frac{.02}{10} = .002$$

$$SE = \sqrt{\frac{.002}{11}} = \sqrt{.0002} = .01$$

$$\left( \begin{array}{l} .11 \\ .07 \end{array} \right)$$

25°C



25°C cage25°C

Lizard

No.	Sex	Weight	Date	$O_2$ (cc/gm/hr)			
				No.	$\bar{X}$	STP $X$	STP $X^2$
297	♂	17.8	12/63	3	.22	.19	.04
97	♀	16.6	"	3	.15	.13	.02
39	♀	17.6	"	3	.05	.04	.00
102	♀	20.0	"	3	.24	.21	.04
37	♀	18.5	"	3	.24	.21	.04
108	♂	10.4	"	3	.02	.02	.00
87	♂	13.3	"	3	.13	.11	.01
64	♀	19.4	"	3	.06	.05	.00
29	♀	12.5	"	2	.14	.13	.02
23	♀	17.5	"	3	.10	.09	.01
292	♂	14.3	"	4	.05	.04	.00
				—	—	—	—

$$N = 33 \quad 11 \quad 11$$

$$\Sigma X = 1.22$$

$$\Sigma X^2 = 0.18$$

$$\bar{X} = 0.11$$

$$\bar{X}^2 = 0.01$$

$$\text{Range: } .02 - .21$$

$$S^2 = \frac{.18 - 11(.01)}{10} = \frac{.07}{10} = .007$$

$$SE = \sqrt{\frac{.007}{11}} = \sqrt{.0006} = .02$$

$$\begin{pmatrix} .15 \\ .07 \end{pmatrix}$$



35°C cage

Lizard No.	Sex	Weight	Date
40	♀	13.5	12/63
95	♀	12.8	"
17	♂	7.4	"
80	♀	10.0	"
89	♂	10.2	"
15	♂	8.2	"
201+3	♂	9.3	"
114	♀	6.4	"
56	♂	8.2	"

No.	$O_2$ (cc/gm/hr)		
	$\bar{X}$	STP	STP <sup>2</sup>
3	.10	.09	.01
3	.08	.07	.01
3	.07	.06	.00
3	.13	.11	.01
3	.27	.24	.06
3	.05	.04	.00
3	.23	.20	.04
3	.10	.09	.01
3	.26	.23	.05
—	—	—	—

$$N = 27 \quad 9 \quad 9$$

$$\Sigma X = 1.13$$

$$\Sigma X^2 = 0.19$$

$$\bar{X} = 0.12$$

$$\bar{X}^2 = 0.01$$

$$\text{Range: } .04 - .24$$

$$S^2 = \frac{.19 - 9(0.01)}{8} = \frac{.10}{8} = .01$$

$$SE = \sqrt{\frac{.01}{9}} = \sqrt{.001} = .03$$

$$\begin{pmatrix} .18 \\ .06 \end{pmatrix}$$

25°C



Outdoor cage

25°C

Lizard

No.	Sex	Weight	Date
121	♂	13.1	12/63
122	♂	16.3	"
116	♀	22.3	"
208+100	♀	21.0	"
69	♂	18.7	"
106	♀	17.0	"
93	♂	13.7	"
49	♀	15.3	"
208	♀	20.0	"
88	♀	24.3	"
213	♂	13.5	"
63	♂	15.3	"
123	♀	21.0	"
72	♀	16.2	"
92	♀	12.7	"
16	♂	16.5	"
203+1	♂	13.8	"

<u>O<sub>2</sub> (cc/gm/hr)</u>			
No.	<u><math>\bar{X}</math></u>	<u>X</u>	<u><math>X^2</math></u>
3	.28	.25	.06
3	.08	.07	.01
3	.10	.09	.01
3	.05	.04	.00
3	.04	.04	.00
3	.09	.08	.01
4	<del>.40</del>	<del>.35</del>	<del>.12</del>
			OMIT
3	.20	.18	.03
2	.28	.25	.06
3	.12	.11	.01
3	.26	.23	.05
3	.18	.16	.03
3	.14	.13	.02
3	.05	.04	.00
3	.17	.15	.02
3	.03	.02	.00
4	.27	.24	.06
	—	—	—

$$N = 52 \quad 16 \quad 16$$

$$\Sigma X = 2.08$$

$$\Sigma X^2 = 0.37$$

$$\bar{X} = 0.13$$

$$\bar{X}^2 = 0.02$$

$$\text{Range: } .02 - .25$$

$$s^2 = \frac{.37 - 16(0.02)}{15} = \frac{.05}{15} = .003$$

$$SE = \sqrt{\frac{.003}{16}} = \sqrt{.0002} = .01$$

(.15)  
.11



## PHRYNOSOMA M'CALLI

Cold room

Lizards

No.	Sex	Weight (g)	May 19			
			%	X	S.E.	S.E.P.
102	♂	14.1	"	+	.22	.11
103	♂	15.3	"	+	.41	.12
116	♀	16.1	"	+	.22	.12
77	♀	20.0	"	+	.12	.01
217	♂	18.0	"	-	.16	.05
117	♂	17.1	"	+	.13	.05
257	♀	12.5	"	+	.25	.11
401/2	♀	12.1	"	+	.22	.08
101	♂	15.0	"	+	.11	.04
86	♀	16.2	"	+	.05	.02

$$\bar{X} = .9 \quad 10 \quad 10$$

$$\Sigma X = 4.11$$

$$\Sigma X^2 = 1.69$$

$$\bar{X}^2 = .17$$

$$\bar{X}^2 = .17$$

$$N_{avg} = 4.1 - .17 = 3.93$$

$$S^2 = \frac{(1.69 - 1.41)^2}{4} = \frac{.28}{4} = .07$$

$$S^2 = \frac{.28}{4} = .07 \approx .05$$

(17)



## PHRYNOSOMA M'CALLI

22°

Outdoor cage -

Lizard

No.	Sex	Weight	Date
110	♀	18.1	8-6-52
200+104	♀	15.0	"
103	♂	16.2	"
287	♀	14.8	"
97	♀	21.6	"
299	♂	14.3	"
101	♂	17.4	"
117	♂	16.4	"
105	♂	13.1	"
86	♀	18.0	"

Oct 26/1952			
No.	$\bar{x}$	$s_x$	$s_{\bar{x}}$
+	.21	.22	.05
-	.12	.11	.01
+	.41	.25	.01
+	.60	.51	.08
+	.45	.21	.04
+	.49	.42	.05
+	.14	.12	.01
+	.35	.30	.01
+	.18	.14	.02
+	.15	.12	.02
-	-	-	-

$$\sum x = 27 \quad \sum n = 10$$

$$\Sigma x^2 = 2.54$$

$$\Sigma x^2 = 0.10$$

$$\bar{x} = 2.7$$

$$\bar{x} = 0.0$$

$$\text{Range: } .11 - .51$$

$$s_x^2 = \frac{\Sigma x^2 - (\Sigma x)^2}{n-1} = \frac{0.10 - 2.7^2}{10-1} = 0.002$$

$$s_x = \sqrt{\frac{s_x^2}{n}} = \sqrt{0.002} = 0.04$$

(11)



Field

35°C

## Lizard

No.	Sex	Weight	Date
2	♂	12.7	8-6-5
3	♀	11.5	"
120	♂	12.0	"
122	♂	15.6	"
124	♀	15.2	"
121	♂	10.3	"
125	♀	12.6	"
119	♀	14.4	"
118	♀	13.3	"
123	♀	16.0	"

No.	$\bar{x}$	$s_x$	$s_{\bar{x}}$	$s_{\bar{x}^2}$
+	.52	.44	.10	
+	.41	.40	.16	
>	.51	.42	.15	
+	.28	.64	.06	
1	.55	.41	.12	
+	.15	.12	.04	
+	.20	.11	.02	
+	.10	.09	.01	
+	.15	.12	.04	
+	.20	.12	.04	

$$\Sigma x = 120 \quad \Sigma x^2 = 107.7 \quad \Sigma x^3 = 50.7 \quad \Sigma x^4 = 17.7$$

$$\bar{x} = \frac{120}{12} = 10 \quad s_x = \sqrt{\frac{107.7 - 10^2}{11}} = 3.13$$

$$s_{\bar{x}} = \sqrt{\frac{107.7 - 10^2}{11 \cdot 12}} = 0.71$$

$$s_{\bar{x}^2} = \sqrt{\frac{50.7 - 10^2}{11 \cdot 12}} = 0.45$$

$$s_{\bar{x}^2} = \sqrt{\frac{17.7 - 10^2}{11 \cdot 12}} = 0.12$$

$$(\text{Range}) = .09 - .41$$

$$S_x^2 = \frac{17.7 - 10^2}{11 \cdot 12} = \frac{17.7}{132} = 0.13$$

$$S_x = \sqrt{\frac{17.7}{132}} = 1.00 < 1.37$$

(.12)  
(.09)



15°C cage (dark)35°C

## Lizard

No.	Sex	Weight	Date
85	♀	20.1	12/63
45	♂	9.4	"
86	♀	19.8	"
103+20+30	♂	17.3	"
200+109	♂	14.6	"

<u>O<sub>2</sub> (cc/gm/hr)</u>			
No.	<u><math>\bar{X}</math></u>	<u>STP</u> <u>X</u>	<u>STP</u> <u>X<sup>2</sup></u>
4	.14	.12	.01
3	.11	.09	.01
3	.10	.09	.01
3	.13	.11	.01
3	.14	.12	.01



$15^{\circ}\text{C}$  cage (light)

Lizard

No.	Sex	Weight	Date
81	♂	16.3	12/63
299	♂	14.0	"
67	♀	17.0	"
54	♂	13.5	"
71	♂	20.3	"
41	♀	17.1	"

 $35^{\circ}\text{C}$  $O_2$  (cc/gm/hr)

No.	$\bar{x}$	STP	
		X	$X^2$
4	.13	.11	.01
3	.14	.12	.01
3	.11	.09	.01
3	.10	.09	.01
3	.17	.14	.02
3	.13	.11	.01



15°C cage (combined)

Lizard No.	Sex	Weight	Date
85	♀	20.1	12/63
45	♂	9.4	"
86	♀	19.8	"
103+20+30	♂	17.3	"
200+109	♂	14.6	"
81	♂	16.3	"
299	♂	14.0	"
67	♀	17.0	"
54	♂	13.5	"
71	♂	20.3	"
41	♀	17.1	"

<u>O<sub>2</sub> (cc/gm/hr)</u>			
No.	<u>X̄</u>	STP <u>X̄</u>	STP <u>X̄<sup>2</sup></u>
4	.14	.12	.01
3	.11	.09	.01
3	.10	.09	.01
3	.13	.11	.01
3	.14	.12	.01
4	.13	.11	.01
3	.14	.12	.01
3	.11	.09	.01
3	.10	.09	.01
3	.17	.14	.02
3	.13	.11	.01
— — — —			

$$N = 35 \quad 11 \quad 11$$

$$\Sigma X = 1.19$$

$$\Sigma X^2 = 0.12$$

$$\bar{X} = 0.11$$

$$\bar{X}^2 = 0.01$$

$$\text{Range: } .09 - .14$$

$$s^2 = \frac{.12 - 11(.01)}{10} = \frac{.01}{10} = .001$$

$$SE = \sqrt{\frac{.001}{10}} = \sqrt{.0001} = .010$$

$$\begin{pmatrix} .13 \\ .09 \end{pmatrix}$$

35°C



## PHRYNOSOMA McALPINI

25°C cage35°C

Lizard

No.	Sex	Weight	Date
297	♂	17.8	12/63
97	♀	16.6	"
39	♀	17.6	"
102	♀	20.0	"
37	♀	18.5	"
108	♂	10.4	"
87	♂	13.3	"
64	♀	19.4	"
29	♀	12.5	"
23	♀	17.5	"
292	♂	14.3	"

No.	$O_2$ (cc/gm/hr)			
	$\bar{X}$	STP $X$	STP $X^2$	
4	.10	.09	.01	
3	.09	.08	.01	
3	.13	.11	.01	
3	.20	.17	.03	
3	.20	.17	.03	
3	.15	.13	.02	
3	.10	.09	.01	
3	.09	.08	.01	
3	.09	.08	.01	
3	<del>.33</del>	<del>.28</del>	<del>.08</del>	OMIT
3	<del>.42</del>	<del>.36</del>	<del>.13</del>	OMIT
—	—	—	—	

$$N = 28 \quad 9 \quad 9$$

$$\sum X = 1.00$$

$$\sum X^2 = 0.14$$

$$\bar{X} = 0.11$$

$$\bar{X}^2 = 0.01$$

$$\text{Range: } .08 - .17$$

$$S^2 = \frac{.14 - 9(.01)}{8} = \frac{.05}{8} = .006$$

$$SE = \sqrt{\frac{.006}{9}} = \sqrt{.0007} = .025$$

( $\therefore 16$ )  
( $\therefore 06$ )



## THERMOREGULATION

35°C cage35°C

Lizard

No.	Sex	Weight	Date
40	♀	13.5	12/63
95	♀	12.8	"
17	♂	7.4	"
80	♀	10.0	"
117	♂	11.6	"
89	♂	10.2	"
15	♂	8.2	"
201+3	♂	9.3	"
114	♀	6.4	"
56	♂	8.2	"

<u>O<sub>2</sub> (cc/gm/hr)</u>			
No.	<u>X̄</u>	<u>STP X</u>	<u>STP X<sup>2</sup></u>
2	.04	.04	.00
3	.14	.12	.01
3	.13	.11	.01
3	.22	.19	.04
3	.54	.46	.21
3	.30	.26	.08
3	.53	.45	.20
3	.58	.49	.24
3	.22	.19	.04
3	.48	.41	.17
<hr/>			
<u>N = 29      10      10</u>			

OMIT?

$$\Sigma X = 2.68$$

$$\Sigma X^2 = 1.00$$

$$\bar{X} = .30$$

$$\bar{X}^2 = .09$$

$$\text{Range: } .11 - .49$$

$$s^2 = \frac{1.00 - 10(.09)}{9} = \frac{.10}{9} = .01$$

$$SE = \sqrt{\frac{.01}{10}} = \sqrt{.001} = .03$$

$$\begin{pmatrix} .36 \\ .24 \end{pmatrix}$$



Outdoor cage

35°C

Lizard

No.	Sex	Weight	Date
121	♂	13.1	12/63
122	♂	16.3	"
116	♀	22.3	"
208+100	♀	21.0	"
69	♂	18.7	"
106	♀	17.0	"
93	♂	13.7	"
49	♀	15.3	"
208	♀	20.0	"
88	♀	24.3	"
213	♂	13.5	"
63	♂	15.3	"
123	♀	21.0	"
72	♀	16.2	"
92	♀	12.7	"
16	♂	16.5	"
203+1	♂	13.8	"

No.	$\bar{X}$	$O_2$ (cc/gm/hr)	
		STP	STP
2	.08	.07	.00
4	.20	.17	.03
3	.11	.09	.01
3	.10	.09	.01
3	.11	.09	.01
3	.15	.13	.02
3	.17	.14	.02
3	.27	.23	.05
3	.18	.15	.02
3	.10	.09	.01
3	.22	.19	.04
3	.17	.14	.02
3	.24	.20	.04
3	.12	.10	.01
2	.23	.20	.04
3	.09	.08	.01
3	.13	.11	.01
—	—	—	—

$$N = 50 \quad 17 \quad 17$$

$$\Sigma X = 2.27$$

$$\Sigma X^2 = 0.35$$

$$\bar{X} = 0.13$$

$$\bar{X}^2 = 0.02$$

$$\text{Range: } .07-23$$

$$S^2 = \frac{.35 - 17(.02)}{16} = \frac{.01}{16} = .0006$$

$$SE = \sqrt{\frac{.0006}{17}} = \sqrt{.00003} = .005 \quad \left( \begin{array}{l} .14 \\ .12 \end{array} \right)$$



6 hours light/day

35°C

Lizard No.	Sex	Weight	Date	No.	$\bar{X}$	$S_{TP}/X$	$S_{TP^2}/X$		
4	♀	8.7	12/15/64	6	.16	.14	.02		
8	♂	10.6	"	6	.23	.20	.04		
13	♀	9.1	"	6	.12	.10	.01		
-	14	♂	9.1	"	6	.14	.12	.01	
15 hours light/day		2	♂	10.6	"	4	.16	.14	.02
		7	♂	15.1	"	6	.15	.13	.02

$$N = 6$$

$$\sum X = .83$$

$$\sum X^2 = .12$$

$$\bar{X} = .14$$

$$\bar{X}^2 = .0196$$

$$\text{Range} = .10 - .20$$

$$S^2 = \frac{.12 - 6(.0196)}{5} = \frac{.0024}{5} = .0005$$

$$SE = \sqrt{\frac{.0005}{6}} = \sqrt{.00008} = .009$$

$$\begin{pmatrix} .16 \\ .12 \end{pmatrix}$$



## PHRYNOSOMA M'CALLI

Fig. 3

Lizard

	ex	%	♂	♀	♂ (♂)	♀
8	♂	19.1	6/9/64	-	20	-
15	♂	15.1	"	3	19	-
5	♂	19.2	"	-	21	-
1	♂	16.0	"	3	11	-
10	♂	16.0	"	3	17	17
4	♀	15.6	-	-	16	15
7	♂	16.6	6/10/64	-	16	-
5	♂	12.2	"	2	10	-
16	♂	16.7	"	-	10	11
11	♂	16.7	"	-	10	10
14	♂	16.0	"	-	14	14
2	♂	16.1	"	-	16	15

$$\begin{aligned} & \bar{x} = 16.7 \\ & S.E. = .85 \\ & S.E. = .077 \\ & S.E. = .077 \\ & S.E. = .077 \\ & S.E. = \frac{.077}{\sqrt{12}} = .04 = .17 \end{aligned}$$

$$S.E. = \sqrt{\frac{.077^2}{12}} = .04 = .17$$

$$S.E. = \sqrt{\frac{.077^2}{12}} = .04 = .17$$



## PHRYNOSOMA M'CALLI

Field

Ward	Sex	Weight (g)	Length (mm)	Age (yrs)
10	♂	9.1	96	3
10	♂	10.1	111	3
3	♂	10.2	112	3
1	♂	8.1	100	2
12	♂	10.1	110	3
12	♂	10.0	110	3
7	♂	10.2	110	3
5	♂	10.1	110	3
16	♂	10.1	110	3
19	♂	10.1	110	3
1	♂	10.1	110	3

♂ = 12 ♀ =

♂ X ♂ = 3.27

♂ X ♀ = 4.44

♀ = 3.7

♂ X ♀ = 3.7

♂ = 12      ~~♂ = 12~~      ♂ = 12

$$\text{S.E.} = \sqrt{\frac{S^2}{12}} = \sqrt{\frac{1.54}{12}} = 0.37$$

$$\text{S.E.} = \sqrt{\frac{S^2}{12}} = \sqrt{\frac{1.54}{12}} = 0.37$$



## PHRYNOSOMA McCALLI

, 8-

Field

Hdg#	sex	dated	year	n	$\bar{x}$	$s^2$
8	♂	19.1	6/9/64	3	19.2	.18
15	♂	18.7	"	3	18.5	.19
3	♂	19.2	"	3	19.2	.12
7	♂	16.2	"	2	16.4	.03
12	♂	16.0	"	3	16.0	.01
4	♀	16.6	"	2	16.8	.17
9	♂	11.6	6/10/64	3	11.7	.02
5	♂	12.2	"	2	12.5	.05
16	♂	16.7	"	3	16.7	.01
11	♂	14.0	"	3	14.2	.46
14	♂	17.2	"	3	17.2	.13
2	♂	11.1	"	2	11.0	.75

$$\sum n = 34 \quad 12 = (11)$$

$$\Sigma x = 68.8 \quad (11)$$

$$\Sigma x^2 = 1.09 \quad (1.09)$$

$$\bar{x} = .03 \quad (.03)$$

$$\bar{x}^2 = .053 \quad (.053)$$

$$L_{\text{avg}} = .03 - .75 \quad (.03 - .75) \quad (.03 - .75)$$

$$S^2 = \frac{1.09 - (12)(.053)}{11} = .080 = .07$$

$$S = \sqrt{\frac{.07}{12}} = \sqrt{.00583} = .077$$



*PHRYNOSOMA M'CALLI*

Field

45°

Lizard

No.	Sex	Weight	Date
216	♀	13.6	8/64
217	♀	14.9	"
218	♀	14.6	"
219	♀	16.5	9/64
220	♀	21.3	10/64
9	♂	9.6	"

No.	<u>O<sub>2</sub> (cc/gm/hr)</u>		
	<u>X</u>	<u>STP</u>	<u>STP</u>
13	3.36	2.75	7.56
13	2.16	1.77	3.13
13	0.51	0.42	0.18
13	1.69	1.38	1.90
10	0.46	0.37	6.14
10	2.63	2.16	4.67

$$N = 72 \quad 6 \quad 6$$

$$\Sigma X = 3.85$$

$$\Sigma X^2 = 17.58$$

$$\bar{X} = 1.46$$

$$\bar{X}^2 = 2.13$$

$$\text{Range} = 0.37 - 2.75$$

$$s^2 = \frac{17.58 - 6(2.13)}{5} = \frac{4.80}{5} = .96$$

$$SE = \sqrt{\frac{.96}{6}} = \sqrt{.16} = .40$$

$$\begin{pmatrix} 2.26 \\ 0.66 \end{pmatrix}$$



% Increase

% Increase

## PHYSIOLOGY OF SCALES

Field

Graph No.	Lizard No.	15° Increase			25° Increase			
		15°	25°	Diff.	%	35°	Diff.	%
1	2	.09	.09			,44		
2	3	.09	.18			.40		
3	120	.03	.06			.43		
4	122	.10	.19			.24		
5	124	.03	.05			.47		
6	121	.03	.10			.13		
7	125	.04	.09			.17		
8	119	.02	.04			.09		
9	118	.04	.08			.13		
10	123	.09	.10			.28		



## Outdoor cage

Graph No.	Lizard No.	15° Increase			25° Increase			
		15°	25°	Diff.	%	35°	Diff.	%
1	103	.07	.11			.35		
2	105	.05	.18			.14		
3	110	.11	.14			.23		
4	97	.08	.18			.21		
5	299	.05	.33			.42		
6	117	.02	.26			.30		
7	287	.15	.30			.51		
8	200+109	.06	.25			.11		
9	86	.06	—			.13		
10	101	.03	.26			.12		



Cold room

Graph No.	Lizard No.	15° - 25° Increase			25° - 35° Increase			
		15°	25°	Diff.	%	35°	Diff.	%
1	103	.07	.29			.30		
2	105	.14	.28			.23		
3	110	.05	.20			.19		
4	97	.10	.17			.11		
5	299	.04	.42			.53		
6	117	.06	.35			.48		
7	287	.04	.28			.49		
8	200+109	.14	.32			.20		
9	86	.02	.06			.04		
10	101	.05	.18			.14		



15°C cage (dark)



15°C cage (7 hrs. light)



15°C (combined)

Graph No.	Lizard No.	15°			15°-25° Increase		25°-35° Increase		
		15°	25°	Diff.	%	35°	Diff.	%	
1	85	.01	.11			.12			
2	45	.08	.05			.09			
3	86	.06	.04			.09			
4	103+20+30	.01	.06			.11			
5	200+109	.05	.10			.12			
6	81	.01	.11			.11			
7	299	.10	.07			.12			
8	67	.17	.04			.09			
9	54	.11	.17			.09			
10	71	.13	.05			.14			
11	41	.01	.15			.11			



## Effect of Temperature on Lizard

25°C cage

<u>Graph No.</u>	<u>Lizard No.</u>	<u>15°</u>	<u>25°</u>	<u>15-25° Increase Diff.</u>	<u>%</u>	<u>25-35° Increase Diff.</u>	<u>%</u>
1	297	.11	.19			.09	
2	97	.09	.13			.08	
3	39	.03	.04			.11	
4	102	.02	.21			.17	
5	37	.01	.21			.17	
6	108	.01	.02			.13	
7	87	.02	.11			.09	
8	64	.01	.05			.08	
9	29	.01	.13			.08	
10	23	.01	.09			.28	
11	292	.03	.04			.36	



35°C cage

Graph No.	Lizard No.	15°	25°	15°-25° Increase		35°	25°-35° Increase	
				Diff.	%		Diff.	%
1	40	.03	.09			.04		
2	95	.03	.07			.12		
3	17	.04	.06			.11		
4	80	.05	.11			.19		
5	117	.04	.32			.46		
6	89	.16	.24			.26		
7	15	.09	.04			.45		
8	201+3	.13	.20			.49		
9	114	.02	.09			.19		
10	56	.02	.23			.41		



Outdoor cage

<u>Graph No.</u>	<u>Lizard No.</u>	<u>15°</u>	<u>25°</u>	<u>15°-25° Increase</u>		<u>35°</u>	<u>25°-35° Increase</u>	
				<u>Diff.</u>	<u>%</u>		<u>Diff.</u>	<u>%</u>
1	121	.02	.25			,07		
2	122	.14	.07			,17		
3	116	.05	.09			,09		
4	208+100	.07	.04			,09		
5	69	.02	.04			,09		
6	106	.06	.08			,13		
7	93	.04	.35			,14		
8	49	.06	.18			,23		
9	208	.10	.25			,15		
10	88	.06	.11			,09		
11	213	.07	.23			,19		
12	63	.09	.16			,14		
13	123	.03	.13			,20		
14	72	.05	.04			,10		
15	92	.13	.15			,20		
16	16	.05	.02			,08		
17	203+1	.13	.24			,11		



## Basal Metabolism

## Basal Metabolism

*PHRYNOSOMA MCALLENI*

Lowest O<sub>2</sub> Consumption Values Measured at 15° C

Lizard No.	Month	Condition	O <sub>2</sub> (cc/gm/hr)
120	8	Field	.01
122	"	"	.05
124	"	"	.03
121	"	"	.02
125	"	"	.01
119	"	"	.02
118	"	"	.05
123	"	"	.05
2	"	"	.05
<u>3</u>	"	"	<u>.05</u>
<u>N=10</u>			<u>X = .03</u>

Lizard No.	Month	Condition	O <sub>2</sub> (cc/gm/hr)
97	8	Out.	.04
200+109	"	"	.02
287	"	"	.11
103	"	"	.02
110	"	"	.05
51	"	"	.03
299	"	"	.03
101	"	"	.01
117	"	"	.01
<u>105</u>	"	"	<u>.01</u>
<u>N=10</u>			<u>X = .03</u>

Lizard No.	Month	Condition	O <sub>2</sub> (cc/gm/hr)	Outside	
				O <sub>2</sub> (cc/gm/hr)	
103	9	15°	.05	—	.02
105	"	"	.11	—	.01
110	"	"	.04	—	.05
97	"	"	.09	—	.04
299	"	"	.03	—	.03
117	"	"	.03	—	.01
287	"	"	.03	—	.11
200+109	"	"	.09	—	.02
86	"	"	.01		
<u>101</u>	"	"	<u>.03</u>	—	<u>.01</u>
<u>N=10</u>			<u>X = .05</u>		<u>.03</u>



Lowest O<sub>2</sub> Consumption Values Measured at 15°C

Lizard

No.	Month	Condition	O <sub>2</sub> (cc/gm/hr)
85	12	15°	.01
45	"	"	.01
86	"	"	.05
103+20+30	"	"	.01
200+109	"	"	.04
81	"	"	.01
299	"	"	.07
67	"	"	.10
54	"	"	.10
71	"	"	.02
41	"	"	<u>.01</u>
<u>N = 11</u>		<u>X</u>	<u>.04</u>

Lizard No.	Month	Condition	O <sub>2</sub> (cc/gm/hr)
297	12	25°	.01
97	"	"	.05
39	"	"	.01
102	"	"	.01
37	"	"	.01
108	"	"	.01
87	"	"	.01
64	"	"	.01
29	"	"	.01
23	"	"	.01
292	"	"	<u>.02</u>
<u>N = 11</u>		<u>X</u>	<u>.01</u>

Lizard

No.	Month	Condition	O <sub>2</sub> (cc/gm/hr)
40	12	35°	.01
95	"	"	.03
17	"	"	.01
80	"	"	.02
117	"	"	.02
89	"	"	.15
15	"	"	.03
201+3	"	"	.11
114	"	"	.01
56	"	"	<u>.02</u>
<u>N = 10</u>		<u>X</u>	<u>.04</u>



## PHRYNOSOMA M'CALLI

Lowest O<sub>2</sub> Consumption Values Measured at 15°C

Lizard No.	Month	Condition	O <sub>2</sub> (cc/gm/hr)
121	12	Out.	.01
122	"	"	.06
116	"	"	.04
208+100	"	"	.04
69	"	"	.01
106	"	"	.04
93	"	"	.01
49	"	"	.05
208	"	-	.09
88	"	"	.05
213	"	"	.05
63	"	"	.09
123	"	"	.02
16	"	"	.03
72	"	"	.05
92	"	"	.10
<u>203+1</u>	"	"	<u>.11</u>
<u>N=17</u>			<u><math>\bar{X} = .05</math></u>



*PHRYNOSOMA MCNAUL*

Lowest O<sub>2</sub> Consumption Values Measured at 25°C

Lizard No.	Month	Condition	O <sub>2</sub> (cc/gm/hr)
120	8	Field	.03
122	"	"	.10
124	"	"	.04
121	"	"	.06
125	"	"	.08
119	"	"	.02
118	"	"	.07
123	"	"	.09
2	"	"	.07
<u>3</u>	"	"	<u>.11</u>
<u>N = 10</u>			<u>X = .07</u>

Lizard No.	Month	Condition	O <sub>2</sub> (cc/gm/hr)
101	8	Out.	.18
200+109	"	"	.25
103	"	"	.07
287	"	"	.24
97	"	"	.12
299	"	"	.33
110	"	"	.12
117	"	"	.25
<u>105</u>	"	"	<u>.11</u>
<u>N = 9</u>			<u>X = .18</u>

					<u>Outside</u>
Lizard No.	Month	Condition	O <sub>2</sub> (cc/gm/hr)		O <sub>2</sub> (cc/gm/hr)
103	9	15°	.26	—	.07
105	"	"	.20	—	.11
110	"	"	.13	—	.12
97	"	"	.13	—	.12
?	299	"	.40	—	.33
117	"	"	.27	—	.25
287	"	"	.22	—	.24
200+109	"	"	.30	—	.25
86	"	"	.05		
<u>101</u>	"	"	<u>.11</u>	—	<u>.18</u>
<u>N = 10</u>			<u>X = .21</u>		<u>.18</u>
<u>N = 9</u>			<u>X = .18</u>		



Lowest O<sub>2</sub> Consumption Values Measured at 25°C

Lizard No.	Month	Condition	O <sub>2</sub> (cc/gm/hr)
85	12	15°	.11
45	"	"	.04
86	"	"	.02
103+20+30	"	"	.04
200+109	"	"	.08
81	"	"	.10
299	"	"	.07
67	"	"	.03
54	"	"	.13
71	"	"	.04
41	"	"	.11
<u>N = 11</u>		<u>X</u> = .07	

Lizard No.	Month	Condition	O <sub>2</sub> (cc/gm/hr)
297	12	25°	.18
97	"	"	.08
39	"	"	.03
102	"	"	.07
37	"	"	.17
108	"	"	.01
87	"	"	.10
64	"	"	.02
29	"	"	.10
23	"	"	.06
292	"	"	.02
<u>N = 11</u>		<u>X</u> = .08	

Lizard No.	Month	Condition	O <sub>2</sub> (cc/gm/hr)
40	12	35°	.04
95	"	"	.06
17	"	"	.05
80	"	"	.07
117	"	"	.30
89	"	"	.23
15	"	"	.04
201+3	"	"	.19
114	"	"	.05
56	"	"	.21
<u>N = 10</u>		<u>X</u> = .12	



# Lowest O<sub>2</sub> Consumption Values Measured at 25°C

Lizard No.	Month	Condition	O <sub>2</sub> (cc/gm/hr)
121	12	Out.	.05
122	"	"	.05
116	"	"	.07
208+100	"	"	.05
69	"	"	.04
106	"	"	.01
93	"	"	.28
49	"	"	.13
208	"	"	.20
213	"	"	.16
88	"	"	.08
123	"	"	.09
63	"	"	.11
72	"	"	.01
92	"	"	.02
16	"	"	.03
<u>203+1</u>	"	"	<u>.19</u>
<u>N=17</u>			<u><math>\bar{X} = .09</math></u>



# Lowest O<sub>2</sub> Consumption Values Measured at 35°C

Lizard No.	Month	Condition	O <sub>2</sub> (cc/gm/hr)	Lizard No.	Month	Condition	O <sub>2</sub> (cc/gm/hr)
120	8	Field	.14	101	8	Out.	.07
122	"	"	.13	200+109	"	"	.11
? 124	"	"	.47 OMIT	103	"	"	.17
121	"	"	.11	287	"	"	.13
125	"	"	.11	86	"	"	.06
119	"	"	.05	97	"	"	.06
118	"	"	.09	299	"	"	.14
123	"	"	.04	110	"	"	.13
2	"	"	.23	117	"	"	.11
<u>3</u>	"	"	<u>.31</u>	<u>105</u>	"	"	<u>.09</u>
N = 9			$\bar{X} = .13$	N = 10			$\bar{X} = .11$

Lizard No.	Month	Condition	O <sub>2</sub> (cc/gm/hr)	Outside (cc/gm/hr)
103	9	15°	.13	.17
105	"	"	.20	.09
110	"	"	.08	.13
97	"	"	.05	.06
? 299	"	"	.38	.14
? 117	"	"	.37	.11
? 287	"	"	.40	.13
200+109	"	"	.14	.11
86	"	"	.02	.06
<u>101</u>	"	"	<u>.06</u>	<u>.07</u>
N = 10			$\bar{X} = .18$	.11
N = 7			$\bar{X} = .10$	



## PHRYNOSOMA MCCALLI

Lowest O<sub>2</sub> Consumption Values Measured at 35°C

Lizard No.	Month	Condition	(cc/gm/hr)	O <sub>2</sub>	Lizard No.	Month	Condition	(cc/gm/hr)	O <sub>2</sub>
85	12	15°	.11		297	12	25°	.06	
45	"	"	.09		97	"	"	.07	
86	"	"	.08		39	"	"	.07	
103+20+30	"	"	.09		102	"	"	.05	
200+109	"	"	.11		37	"	"	.13	
81	"	"	.04		108	"	"	.10	
299	"	"	.10		87	"	"	.07	
67	"	"	.09		64	"	"	.05	
54	"	"	.04		29	"	"	.08	
71	"	"	.11		?	23	"	"	.26
41	"	"	.11		?	292	"	"	.29
<u>N = 11</u>			<u>—</u>	<u>.09</u>	<u>N = 11</u>			<u>—</u>	<u>.11</u>
					<u>N = 9</u>			<u>—</u>	<u>.08</u>

Lizard No.	Month	Condition	(cc/gm/hr)	O <sub>2</sub>
40	12	35°	.03	
95	"	"	.11	
17	"	"	.09	
80	"	"	.14	
?	117	"	.44	
89	"	"	.16	
15	"	"	.20	
?	201+3	"	.47	
114	"	"	.05	
56	"	"	<u>.22</u>	
<u>N = 10</u>			<u>—</u>	<u>.19</u>
<u>N = 8</u>			<u>—</u>	<u>.12</u>



## Lowest O<sub>2</sub> Consumption Values Measured at 35°C

Lizard No.	Month	Condition	O <sub>2</sub> (cc/gm/hr)
121	12	Out.	.05
122	"	"	.13
116	"	"	.10
208+100	"	"	.07
69	"	"	.07
106	"	"	.11
93	"	"	.12
49	"	"	.07
208	"	"	.12
213	"	"	.17
88	"	"	.07
123	"	"	.16
63	"	"	.14
72	"	"	.10
92	"	"	.15
16	"	"	.05
<u>203+1</u>	"	"	<u>.11</u>
<u>N = 17</u>			<u><math>\bar{x} = .10</math></u>

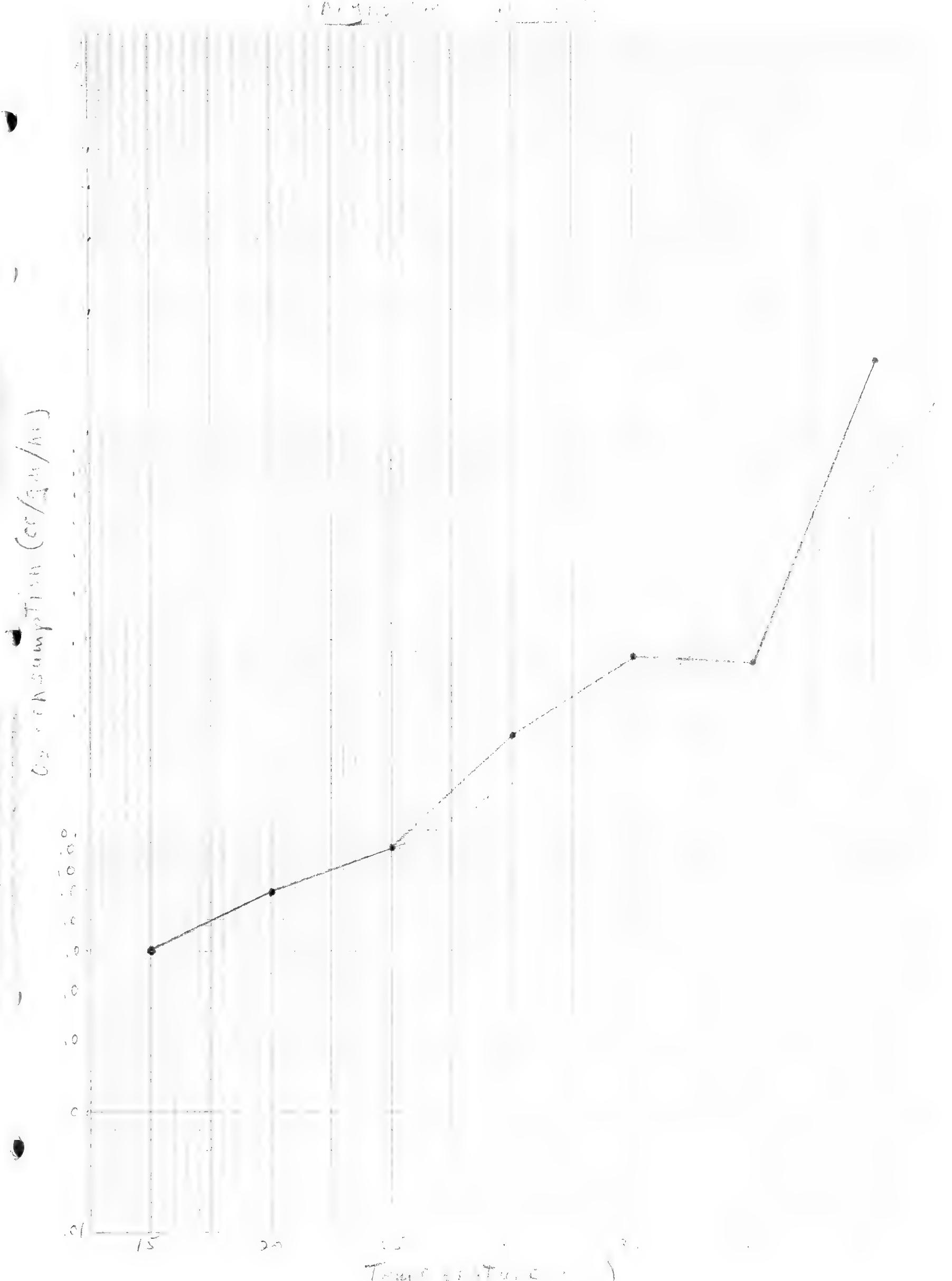


Graphs

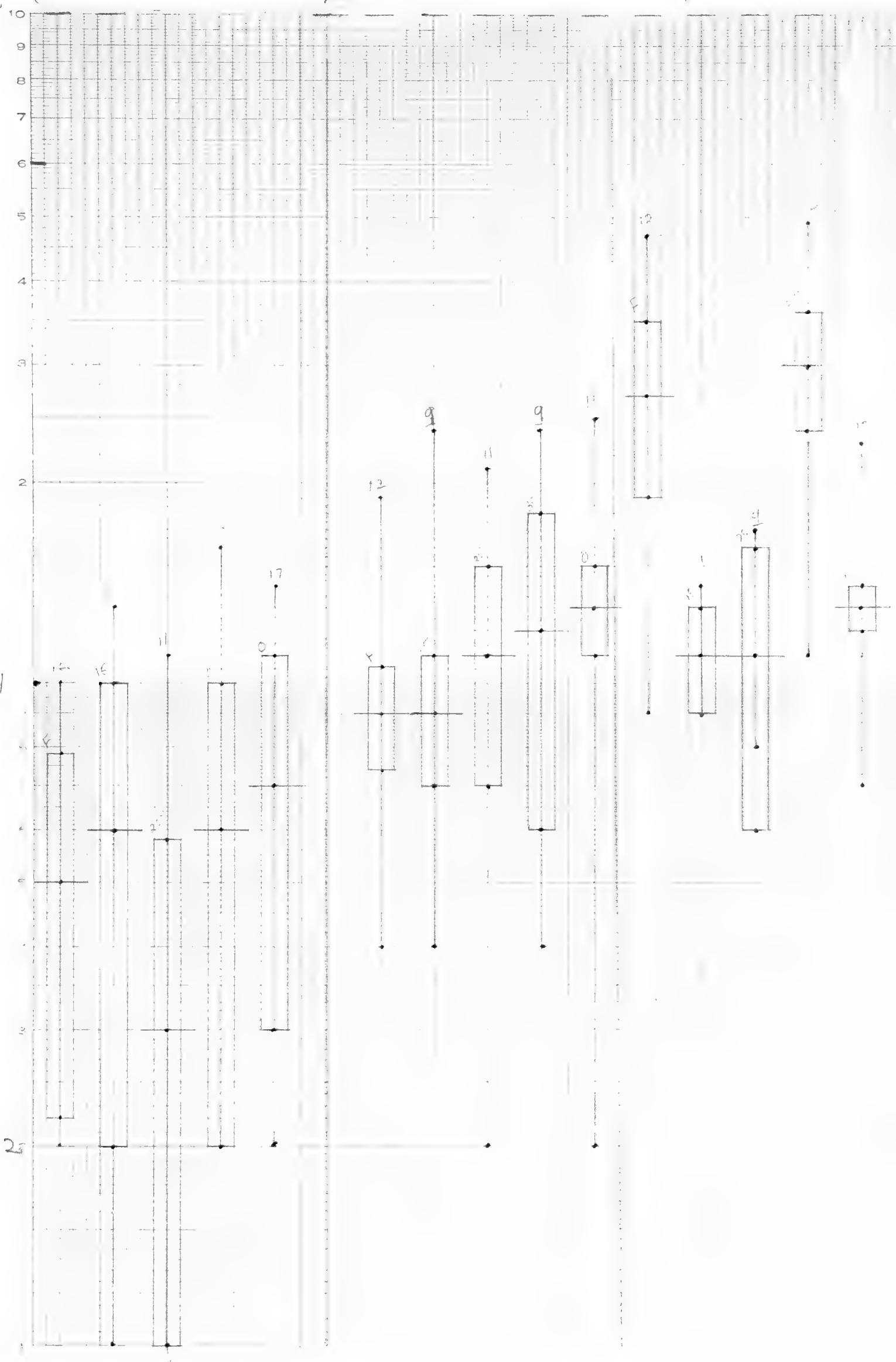


I.R. - 13 8 1/2 x 11



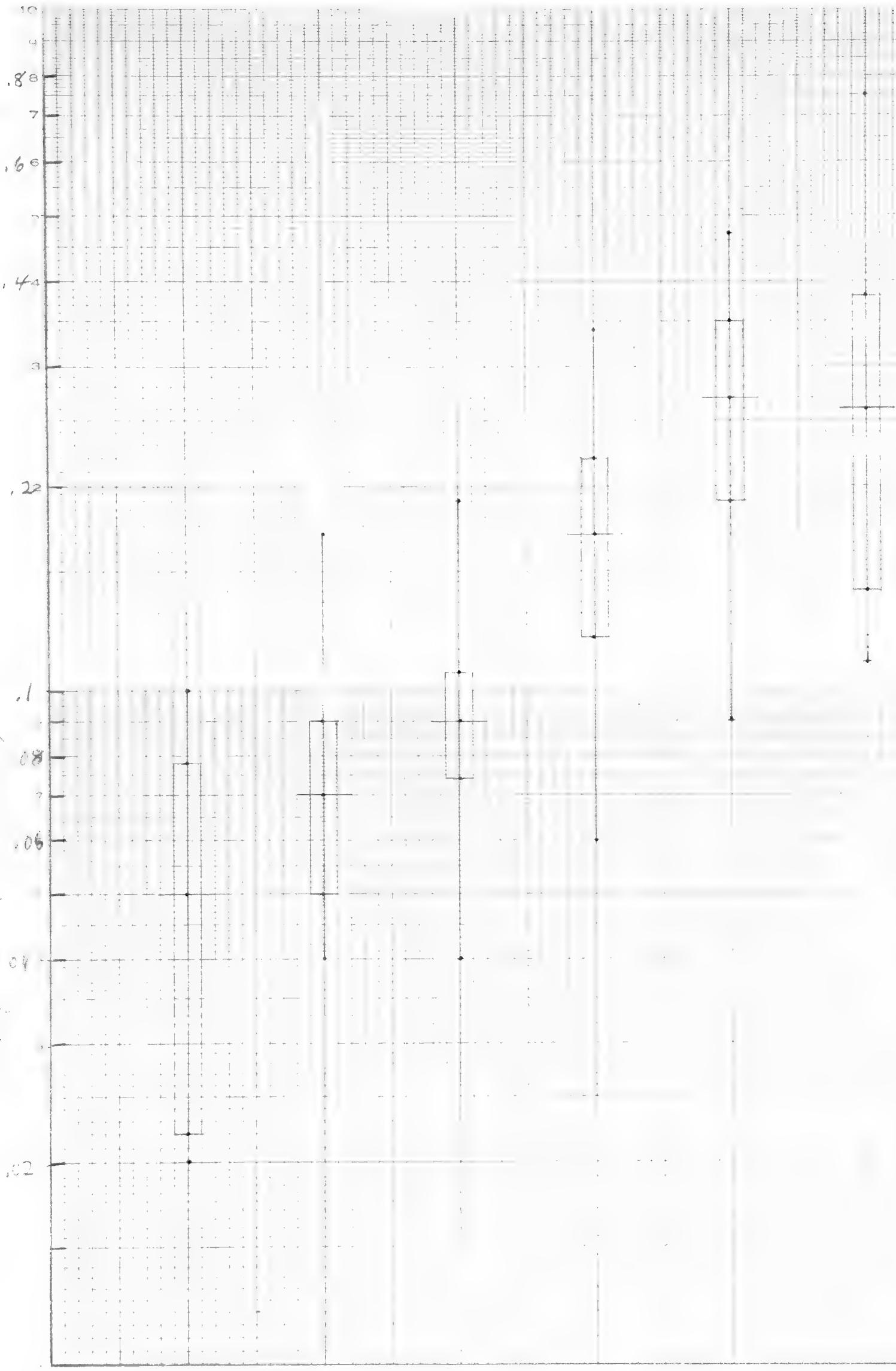




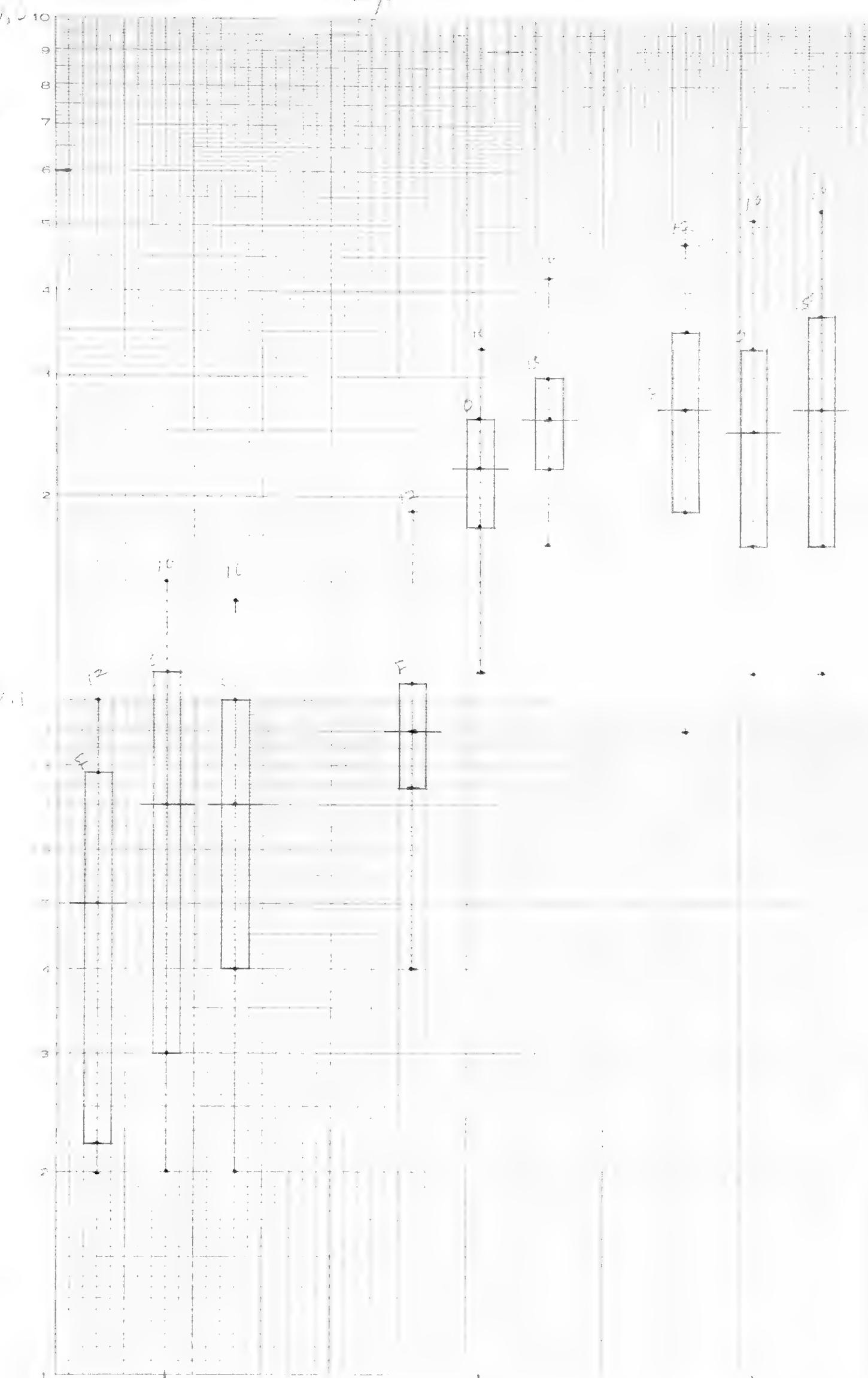


025

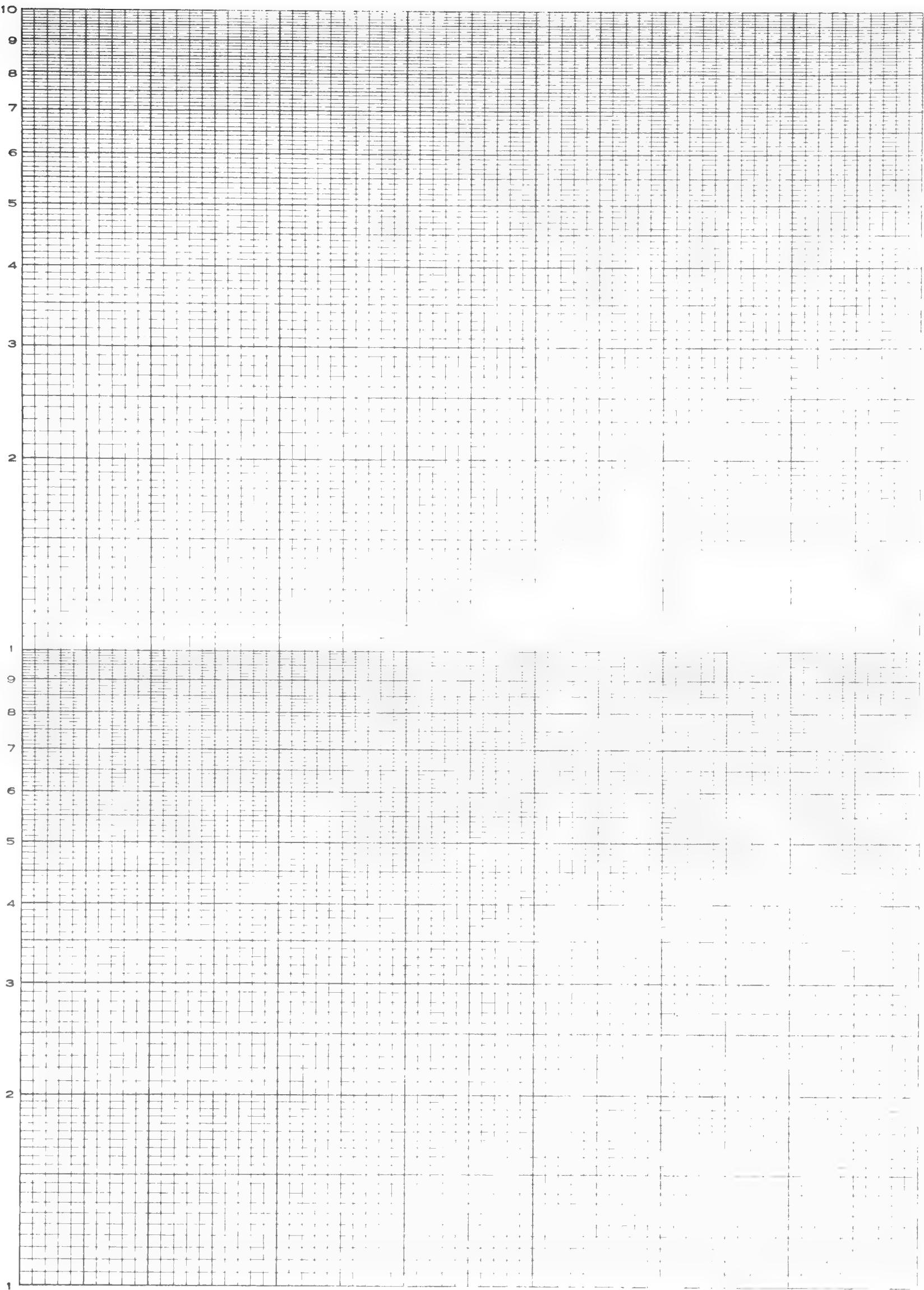










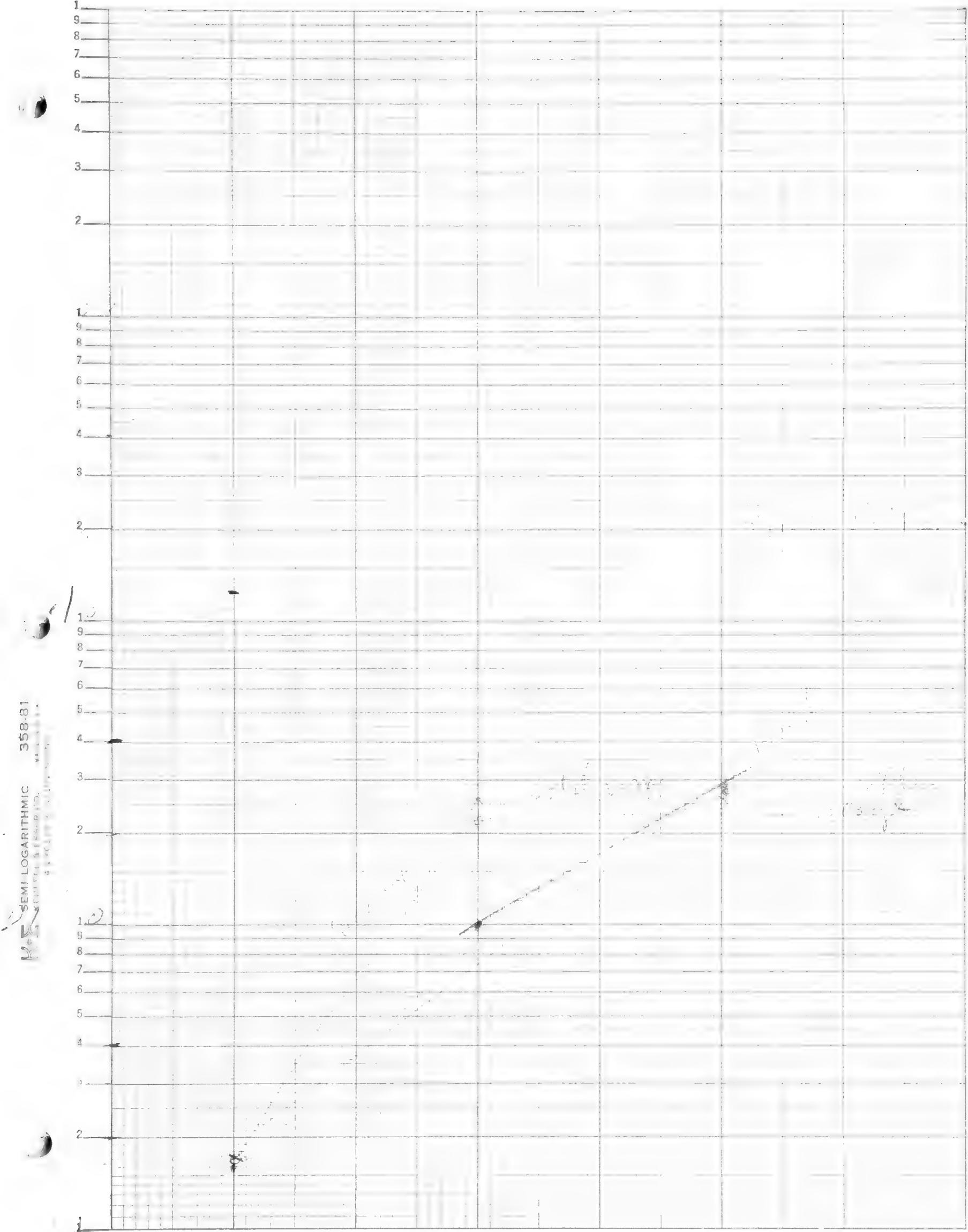


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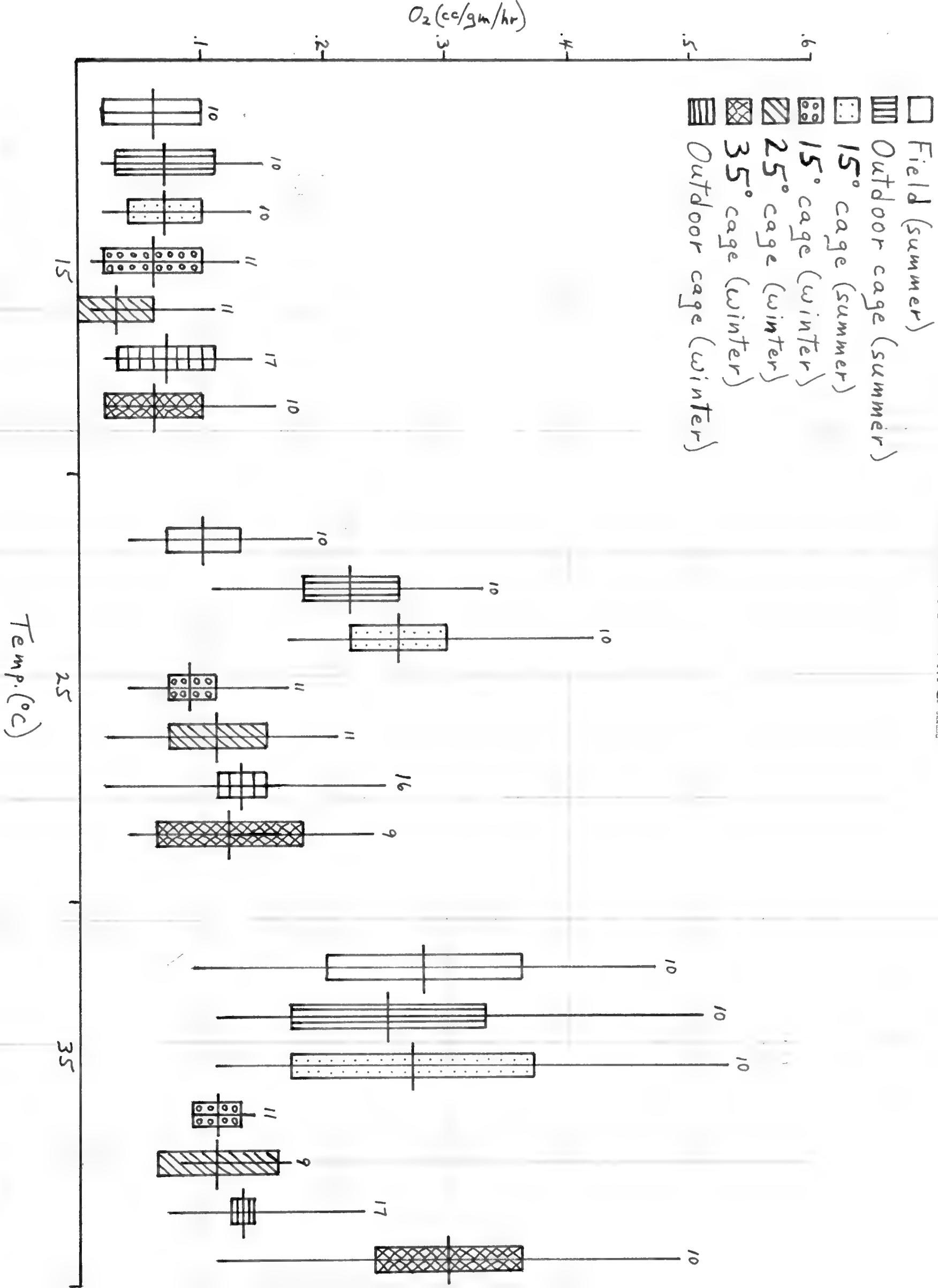


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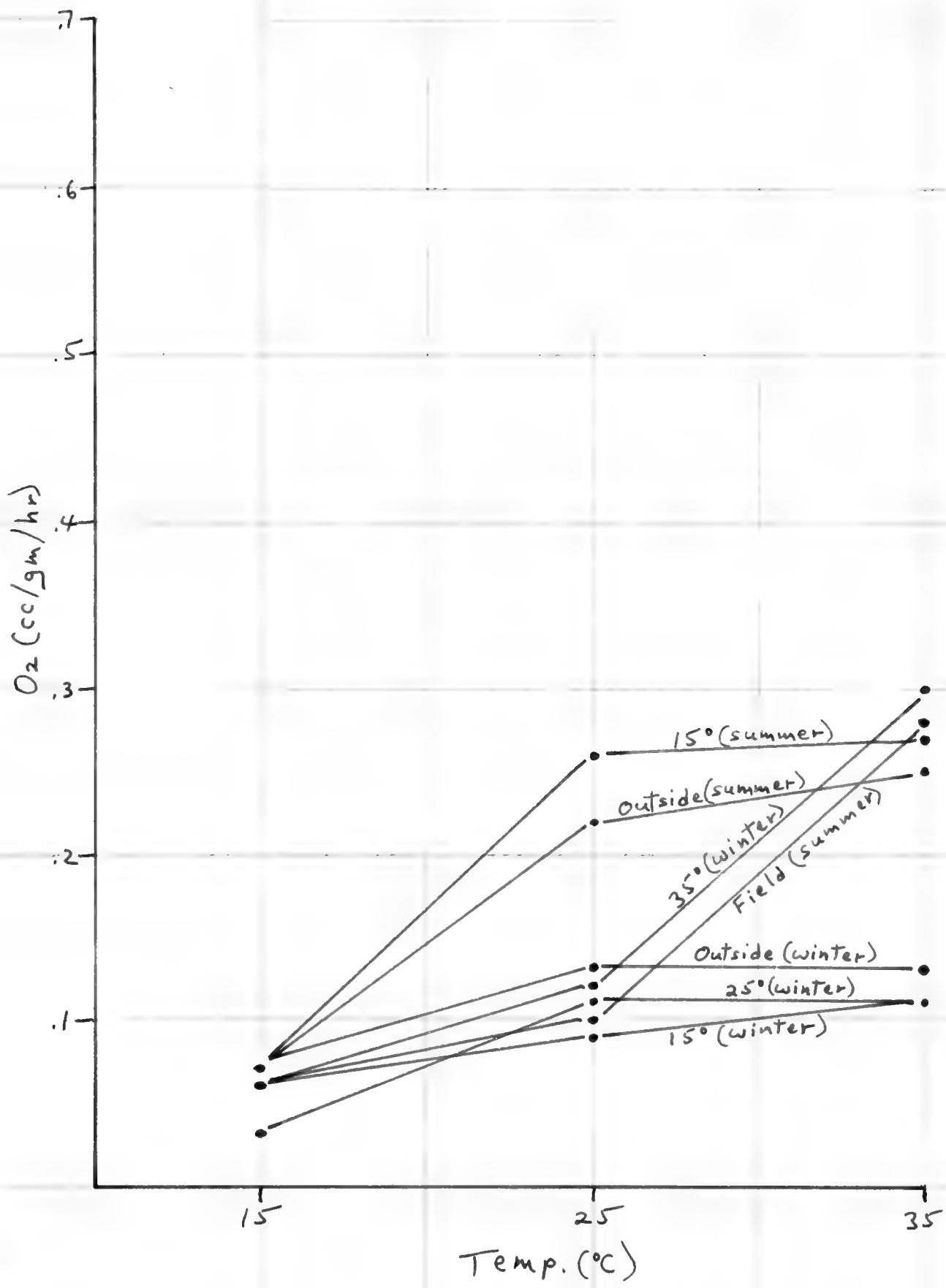


*PHRYNOSOMA MCCALLI*

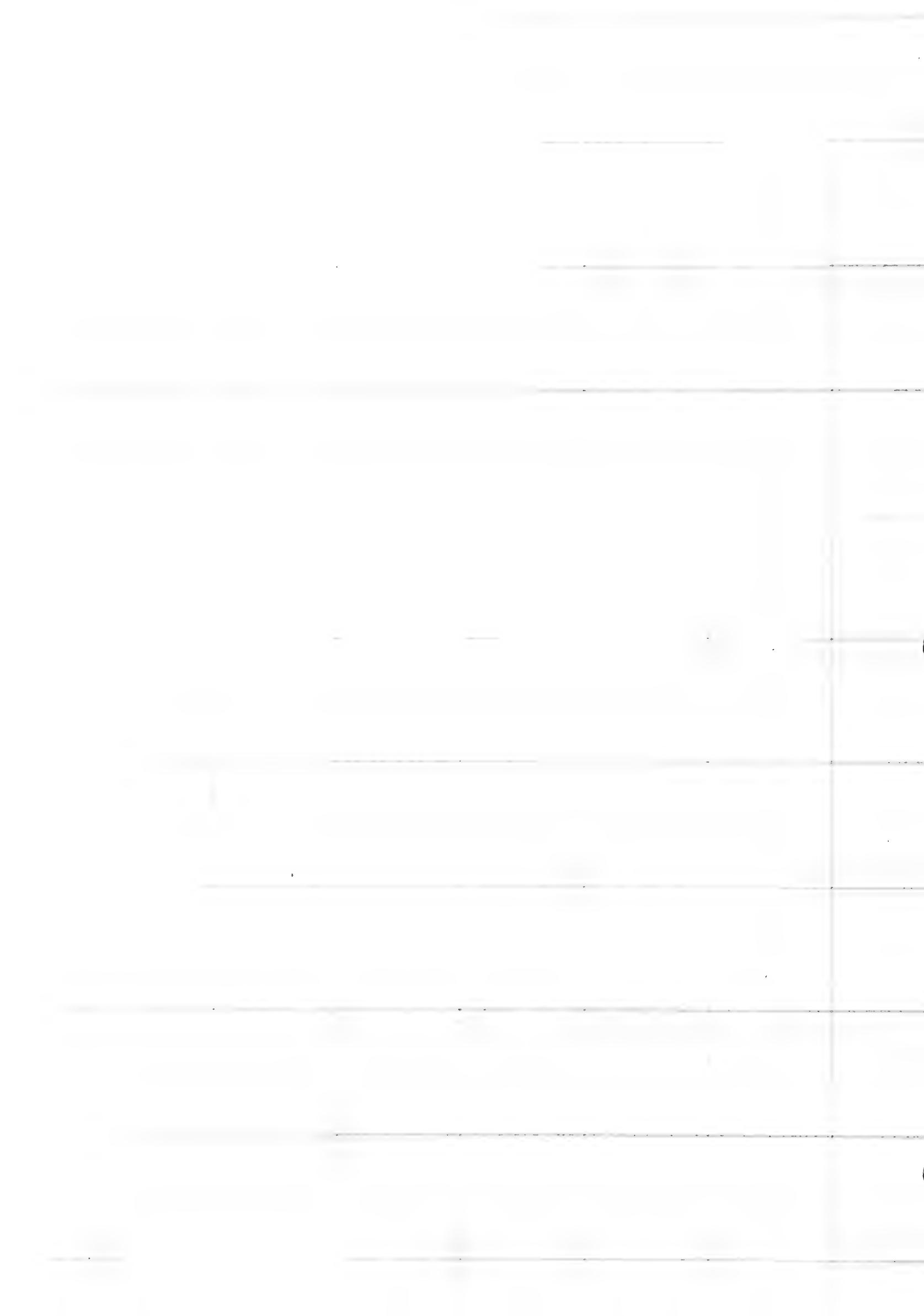




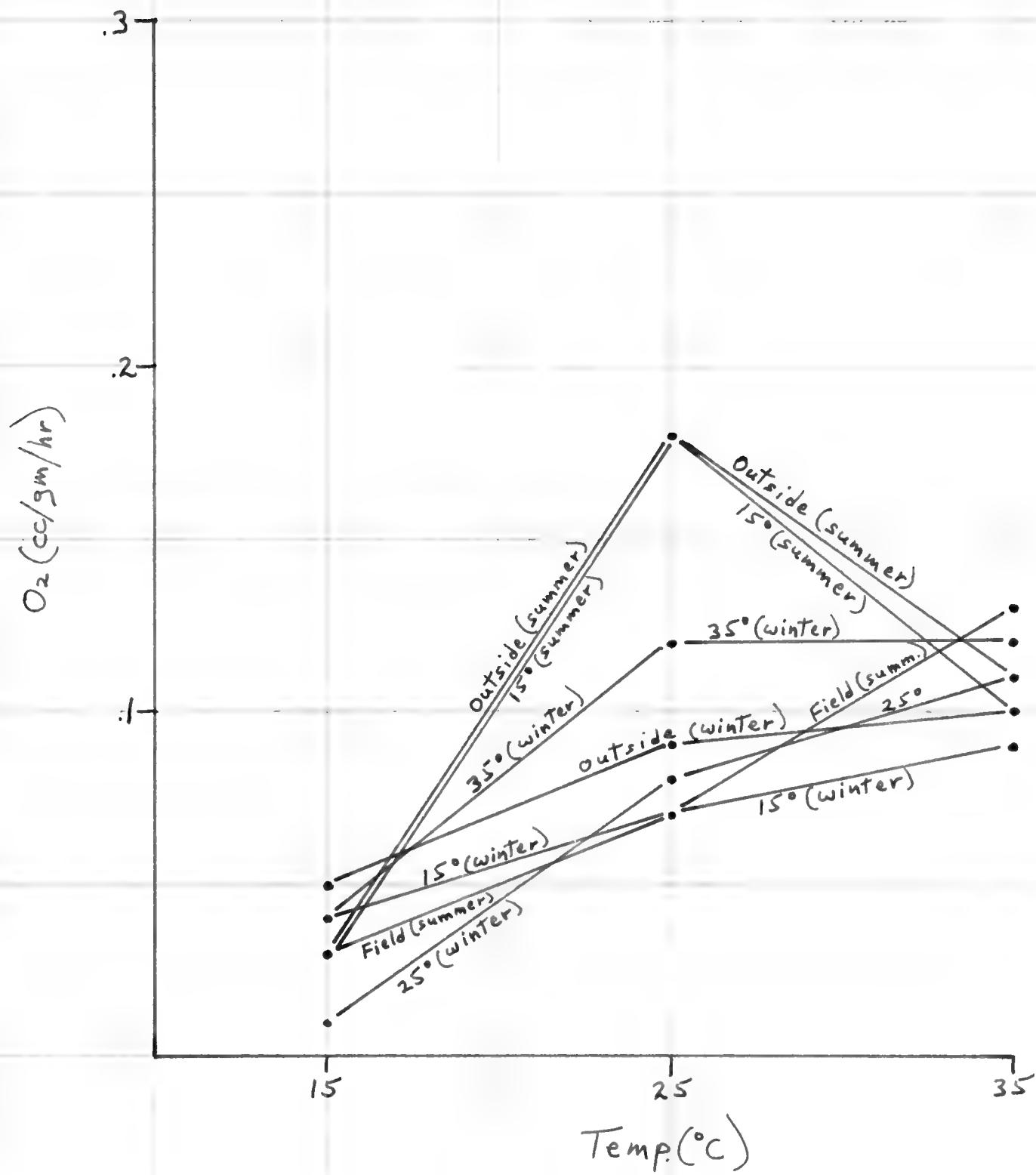
PHRYNOSOMA MCGALLI



(Means)



PHRYNOSOMA M'CALLI



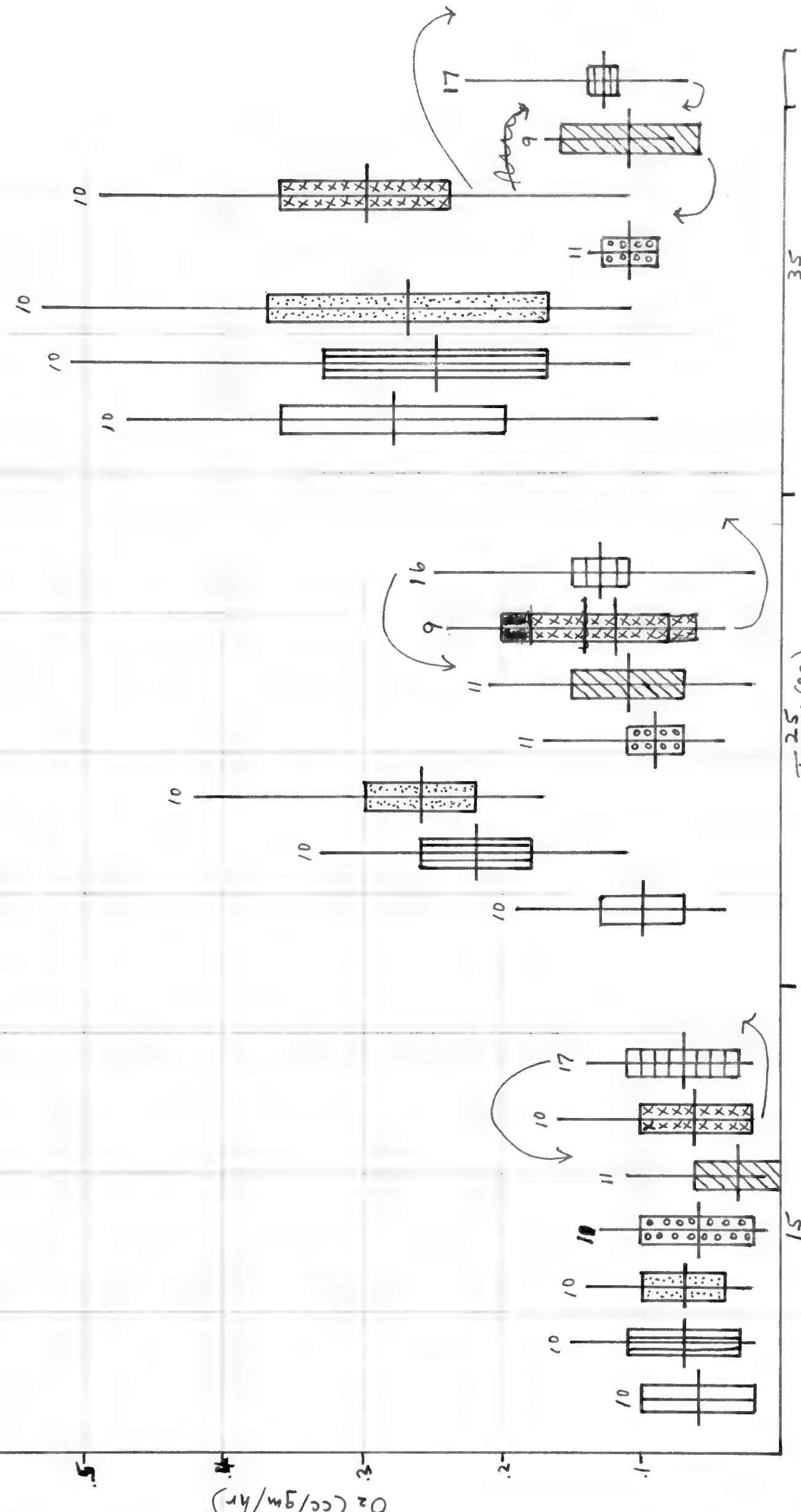
(Basal Metabolic Rates)

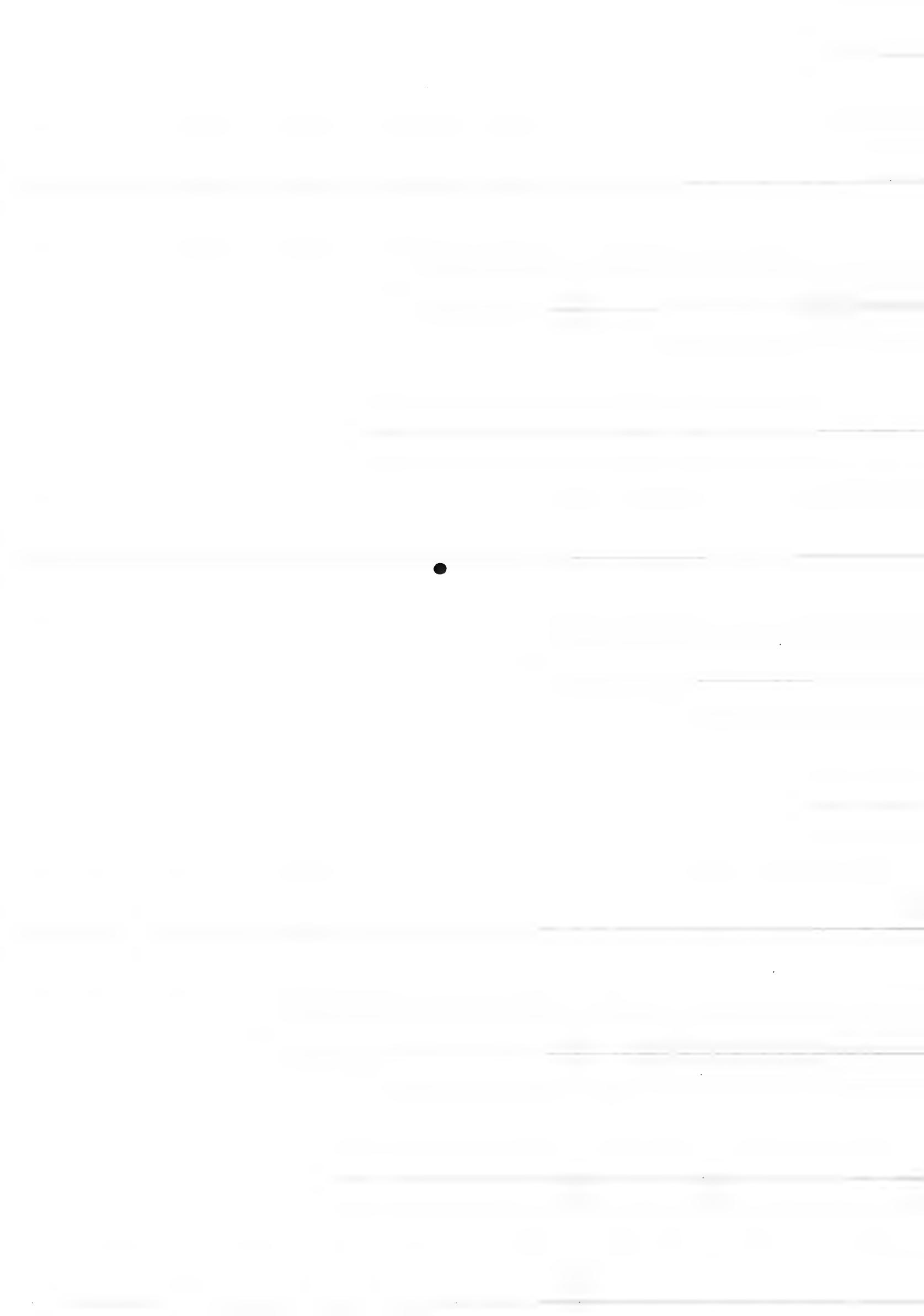


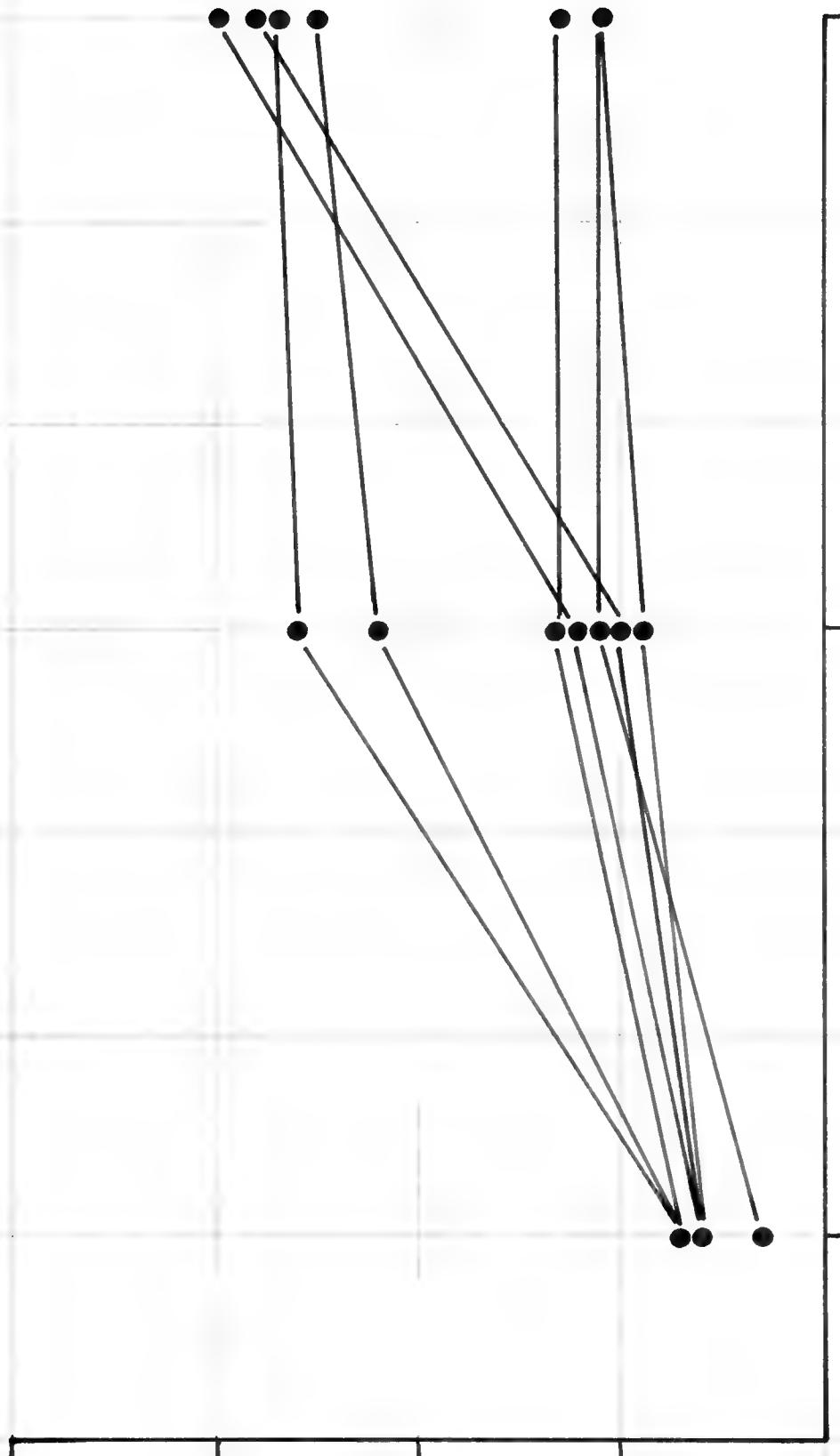
PHRYNOSOMA M'CALLI

Legend

- $Field(S)$  =
- $Outside(S)$  =
- $15^\circ(S)$  =
- $15^\circ(\omega)$  =
- $25^\circ(\omega)$  =
- $35^\circ(\omega)$  =
- $Outside(\omega)$  =

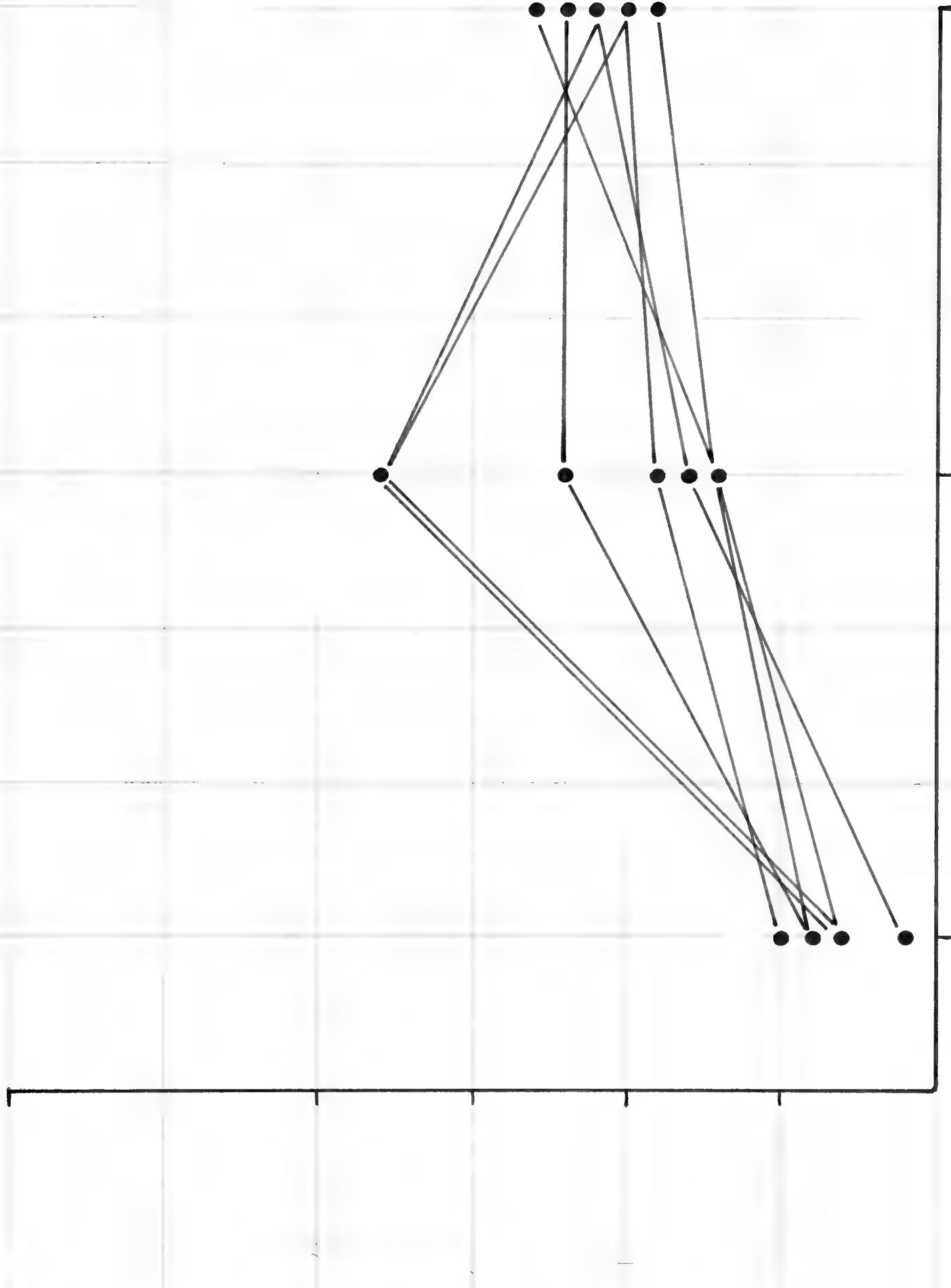






*PHRYNOSOMA MCALLI*

(Means)

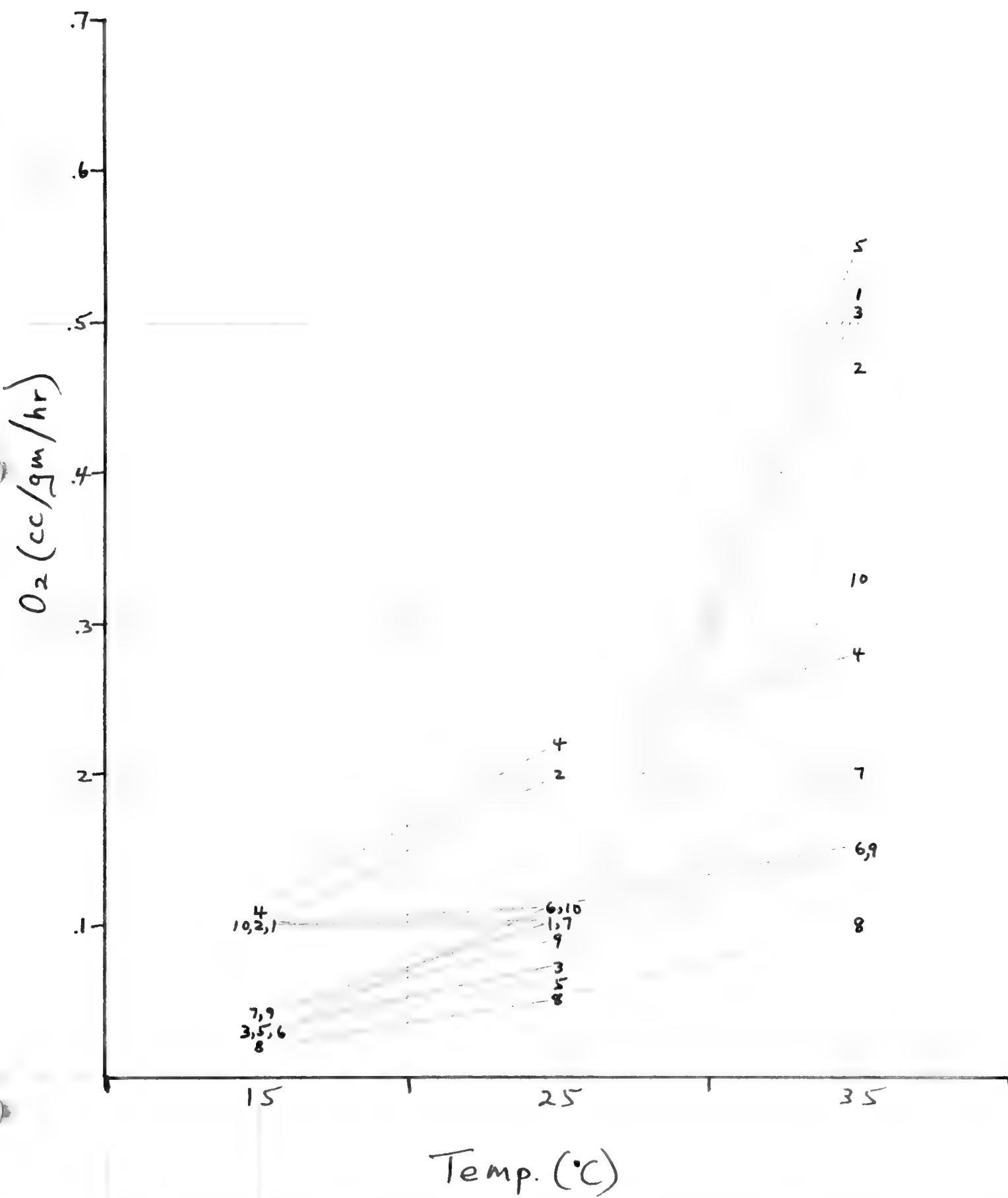


**PHRYNOSOMA M'CALLI**

(Basal Metabolic Rates)

Phrynosoma m'calli

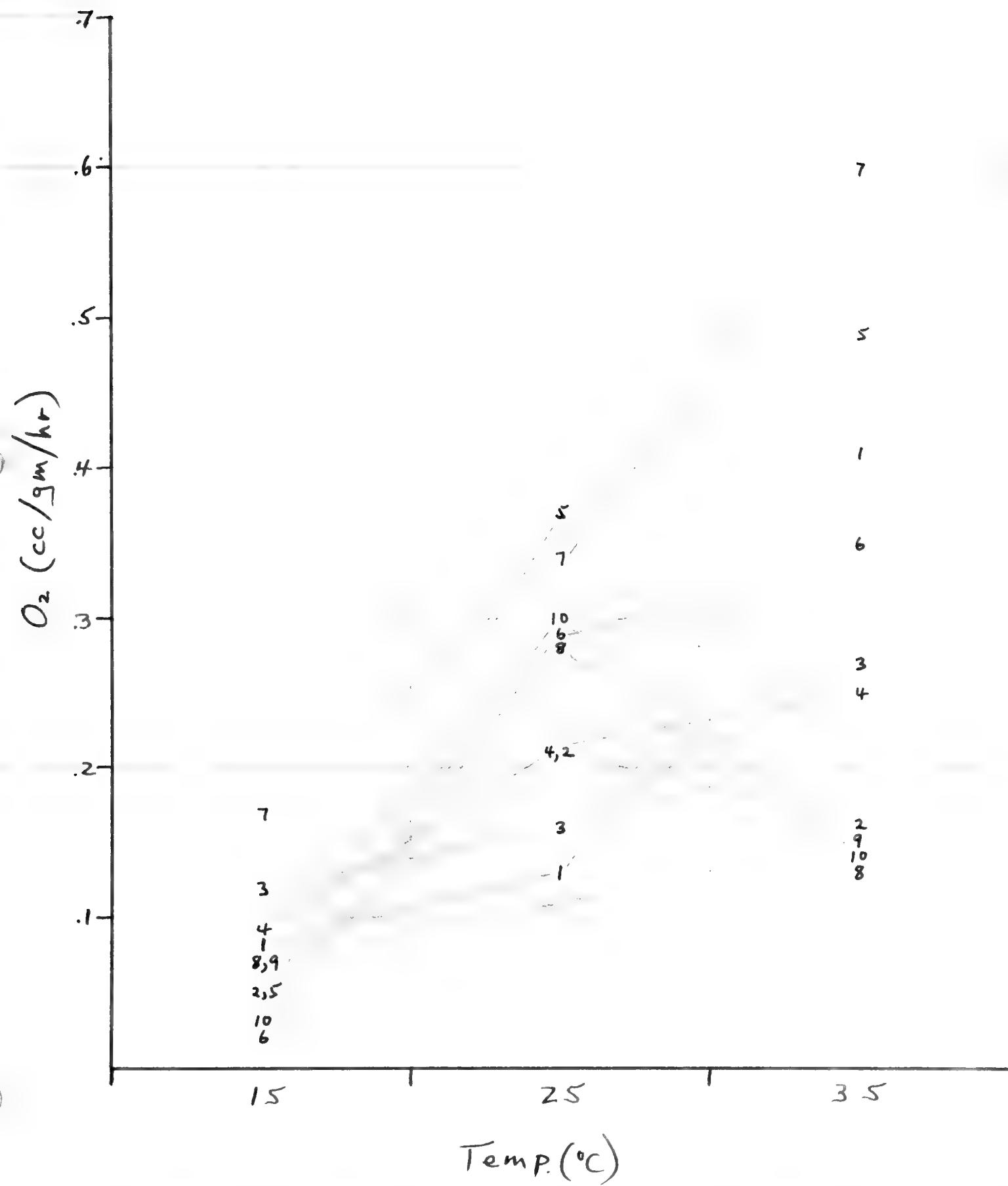
Field





Phrynosoma m'calli

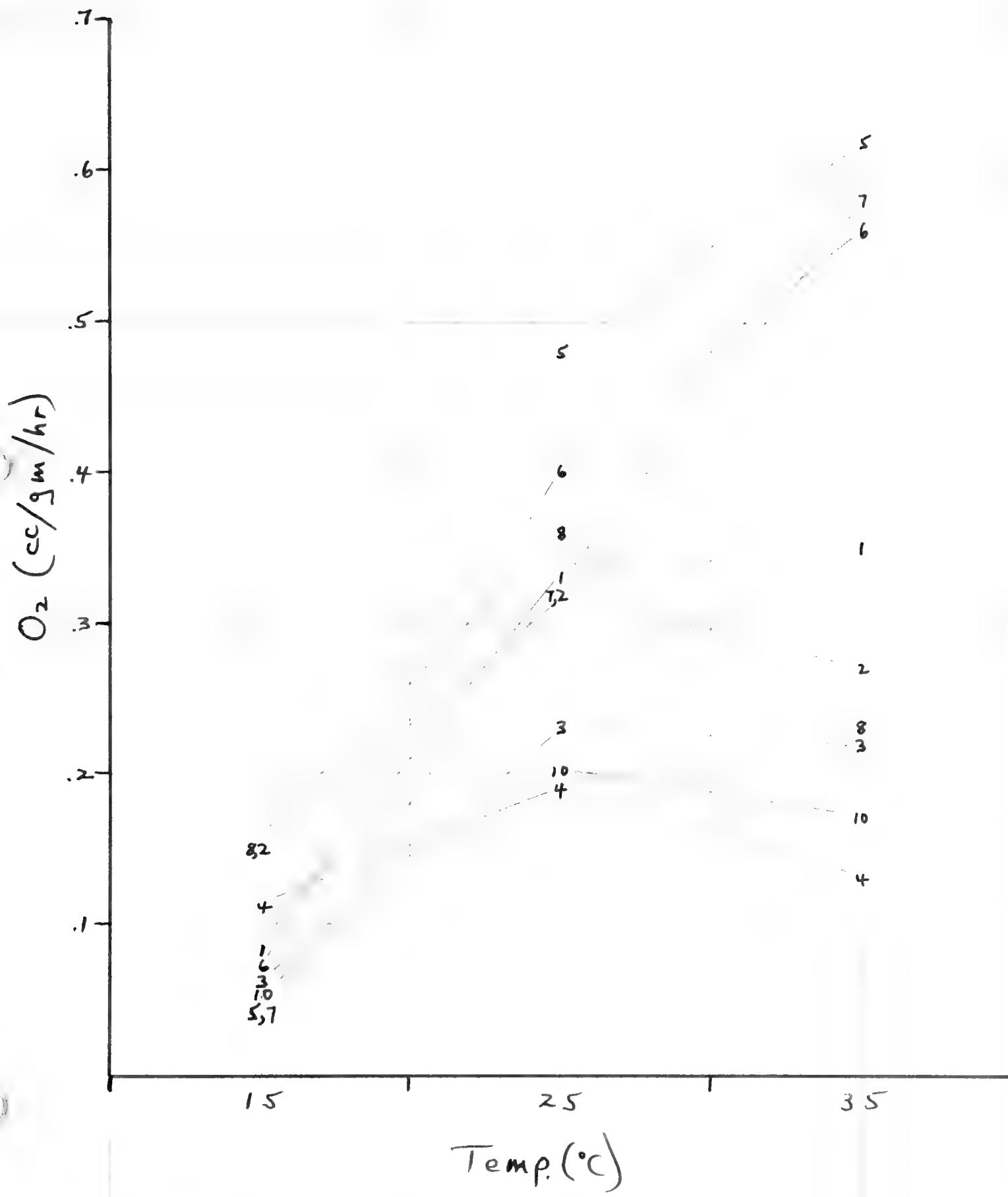
Outdoor cage





Phrynosoma m'calli

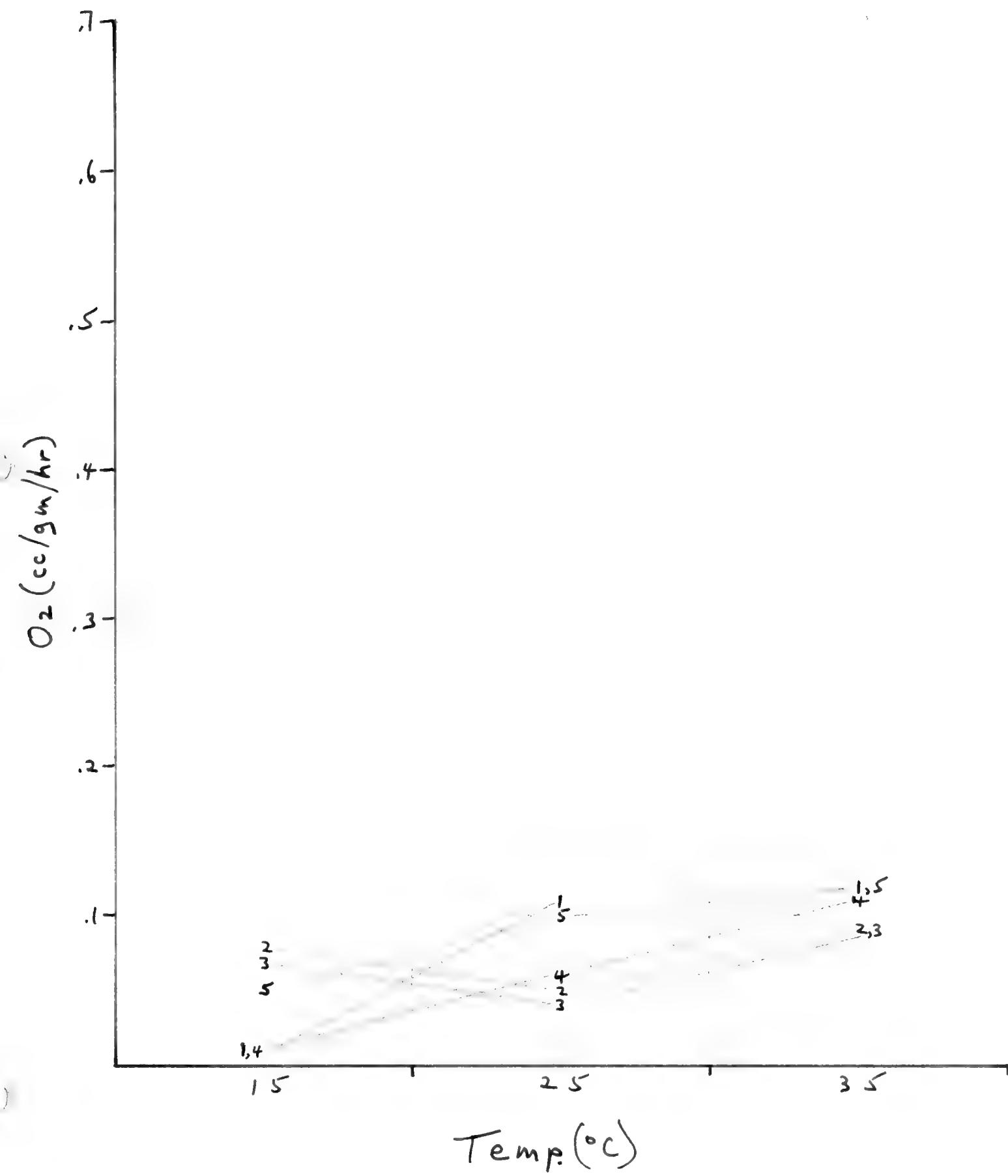
Cold room





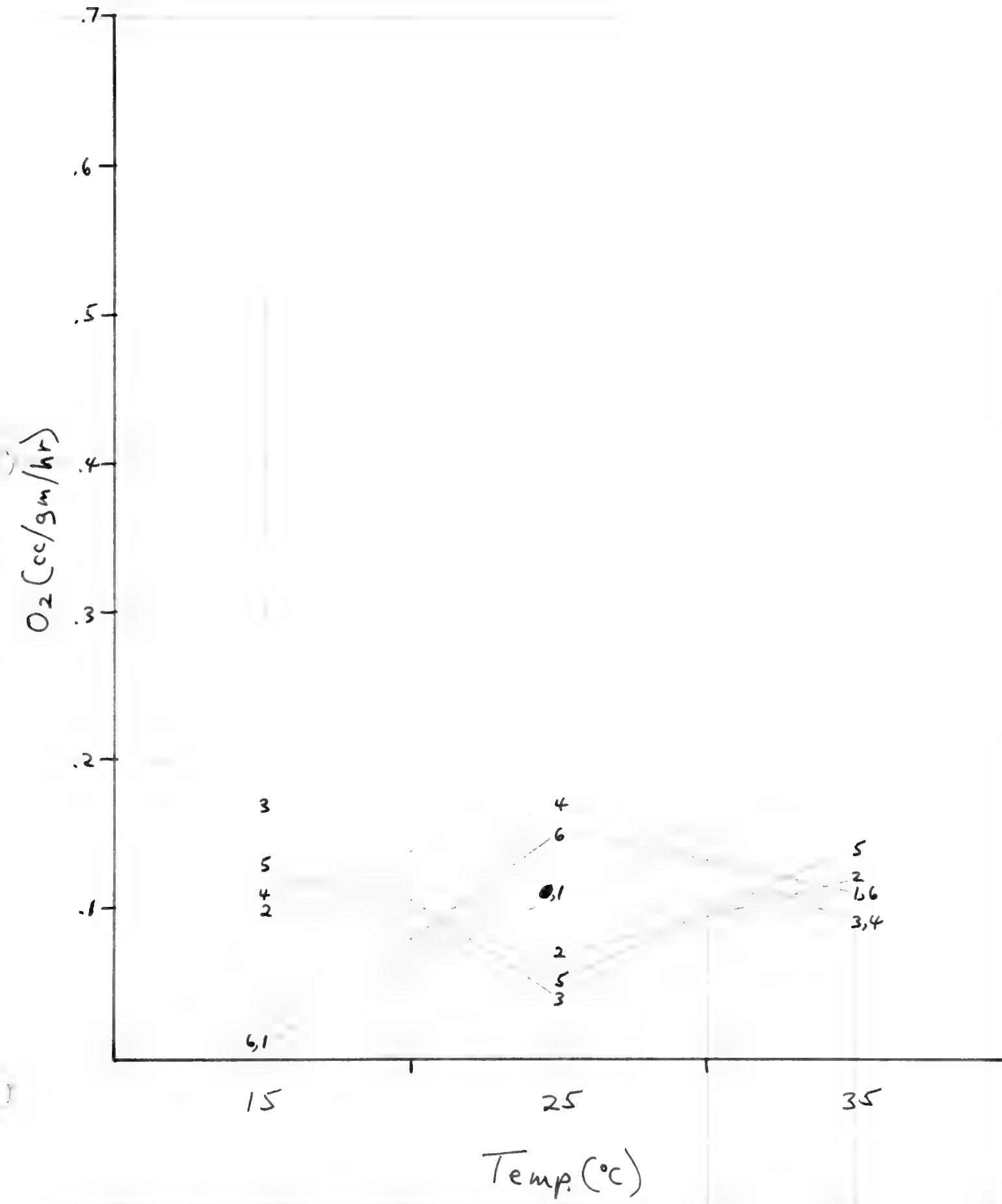
*PHRINOSOMA MCALPINI*

15°C cage (dark)  
(winter)





15°C (light)  
(winter)

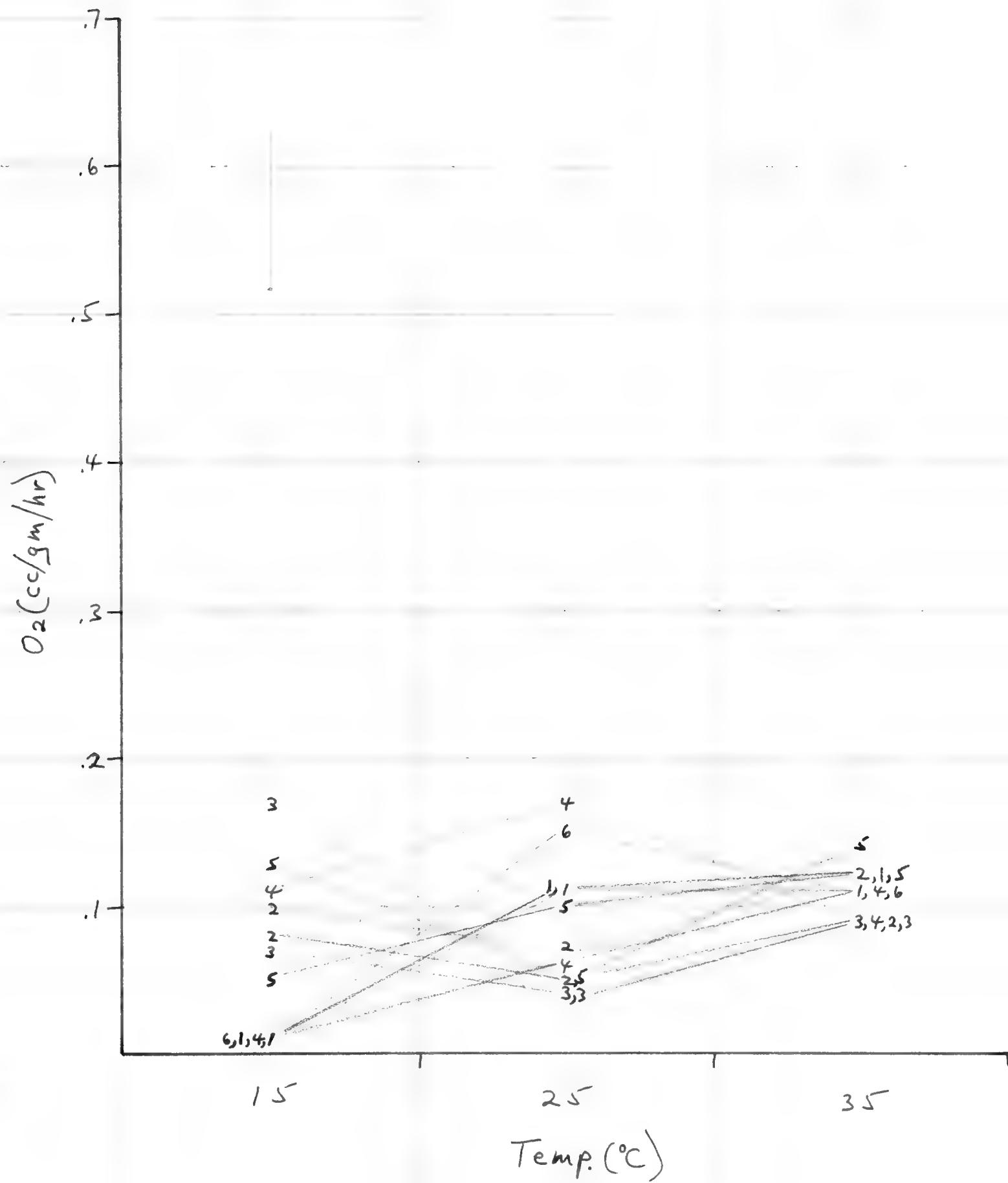




*PHRYNOSOMA WIGGII*

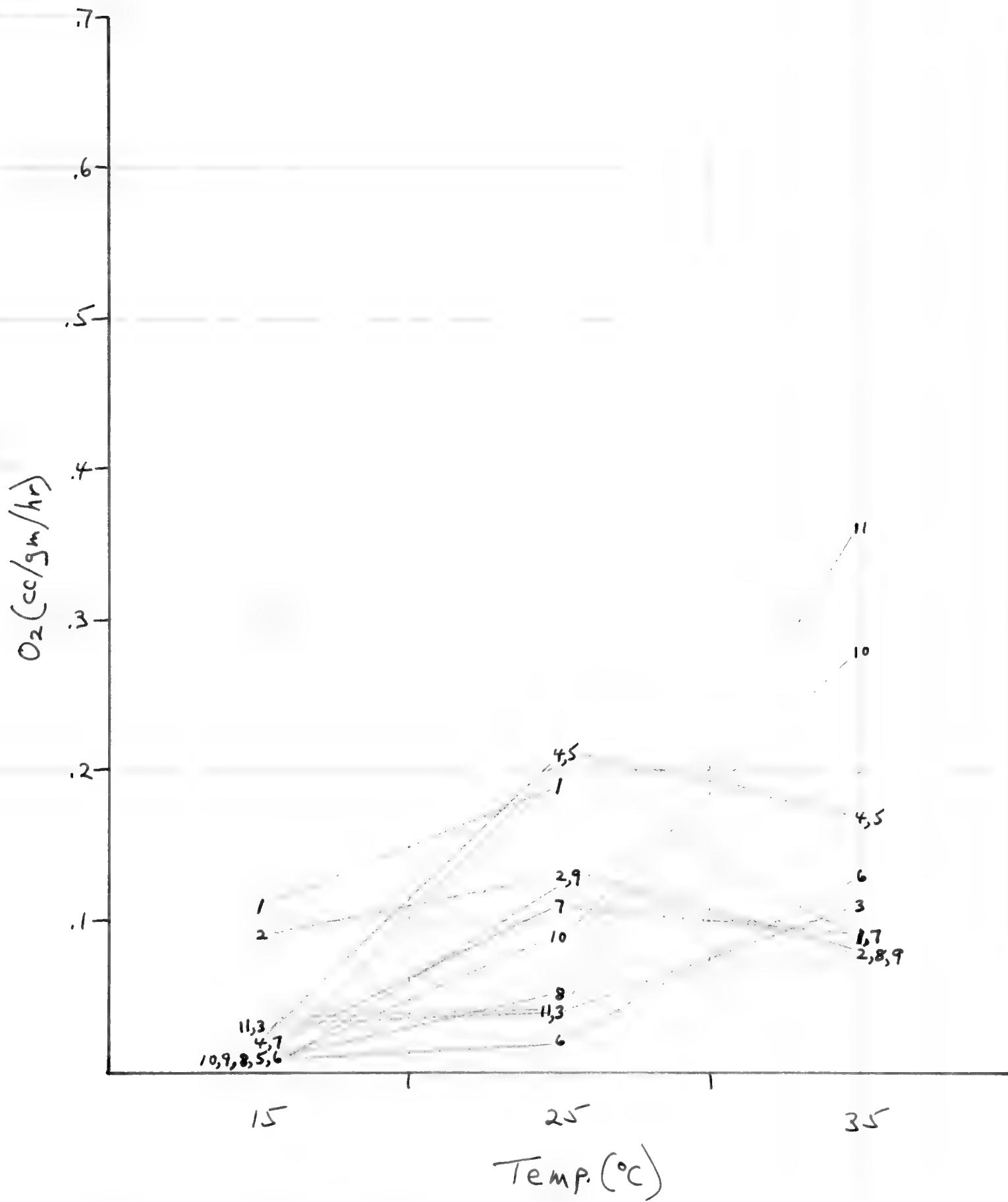
15°C cage (combined)  
(winter)

Legend  
lizards in light = —  
lizards in dark = —





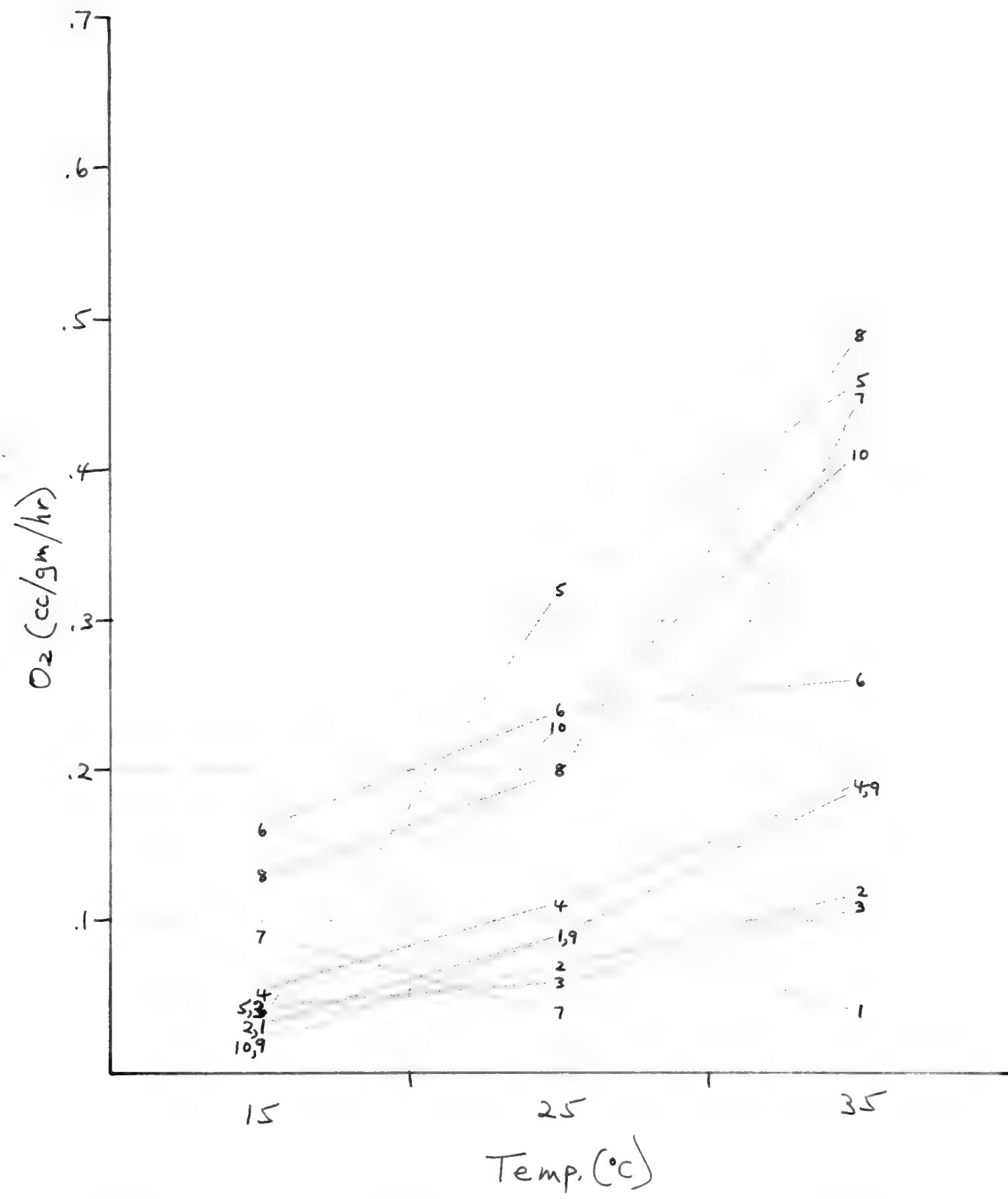
25°C cage





*FHRINCOSOMA MOLL.*

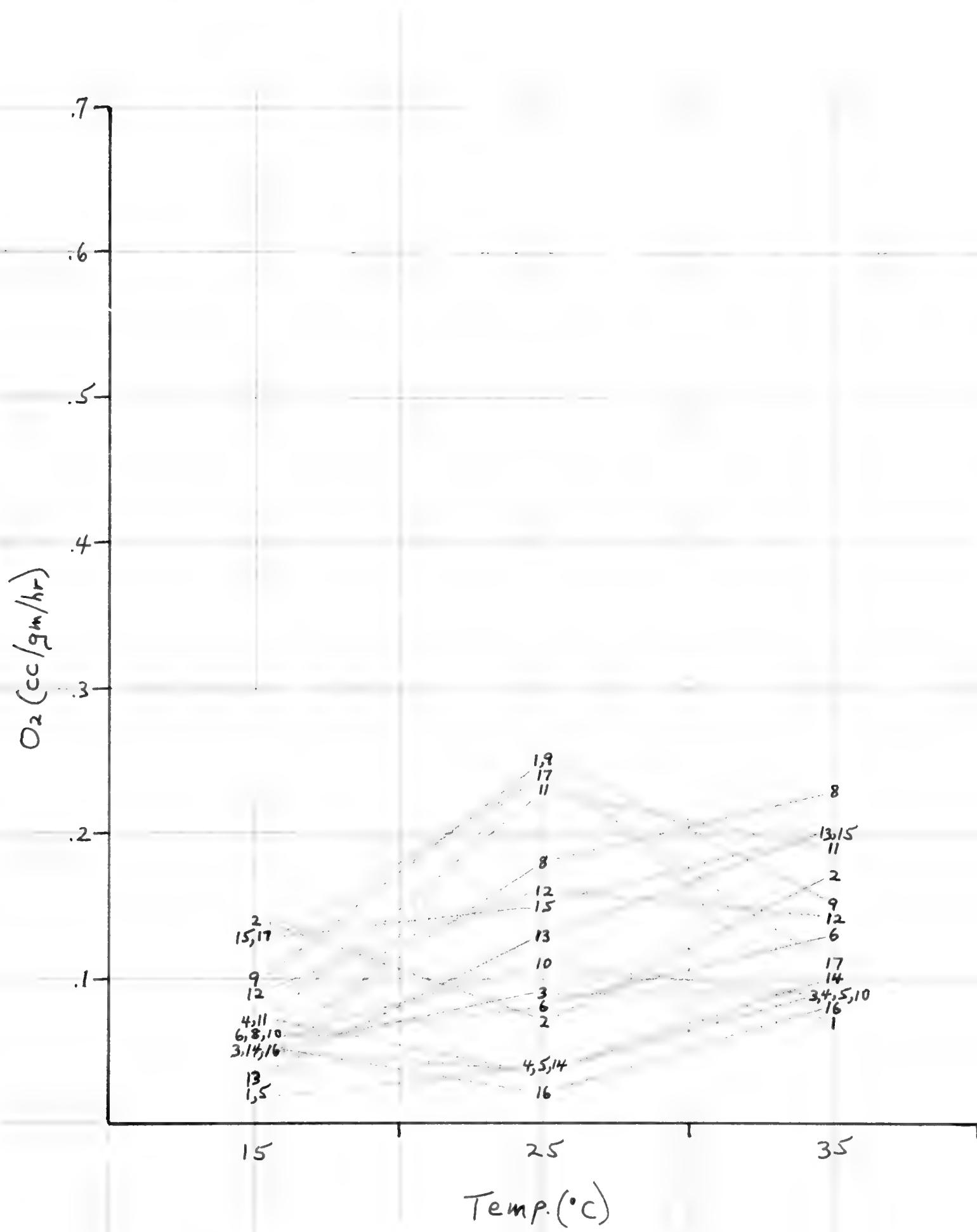
35°C cage





PHRYNOSOMA M'CALLI

Outdoor cage (winter)





Miscellaneous

Phrynosoma m'calli

1/3/64 - All emerged lizards ate heartily

1/17/64 - ♂♂ fighting

1/21/64 - attempted copulation

2/6/64 - definitely successful mating

2/17/64 - fertile eggs laid

(Hibernation experiment)

## References:

- 1) Wurtman, R.J. et al. 1963. Melatonin synthesis in the pineal gland: Control by light. *Science*, 142: 1071-1073. (reprint # 1526)  
great increase in melatonin-synthesizing-enzyme in rats held in darkness (in pineal gland). Melatonin appears to have hormonal role in ~~mammals~~ & its synthesis is confined to pineal gland. Thus light inhibition of the synthesizing enzyme (H10MT) may be a mechanism of neuroendocrine regulation.



**R-371**

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